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2012

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Report Highlights:
India expects a fifth record wheat crop in a row, 87.5 million metric tons, on higher planted area and optimal growing conditions in major growing areas to date. MY 2012/13 wheat exports are forecast at 1.5 million tons. MY 2012/13 rice production is forecast at 100 million metric tons, marginally lower than the year prior record production. India is unlikely to impose export controls on rice in the near future; MY 2011/12 rice exports are likely to reach 6.5 million tons including 2.7 million tons of Basmati. MY 2012/13 coarse grain production is forecast higher at 42.9 million tons on expected higher acreage under corn and sorghum. Indian MY 2012/13 corn exports will fall to 2.2 million tons on expected strong domestic demand, versus corn exports in current MY 2011/12 estimated at 2.4 million tons. MY 2012/13 (Apr/Mar) pulse production is forecast lower at 17.3 million tons compared to the MY 2011/12 record production of 18.2 million tons on lower acreage. Pulse imports in MY 2011/12 are estimated to increase to 3.0 million. Imports are forecast to remain strong in MY 2012/13 provided international prices remain stable.

Commodities:
Wheat

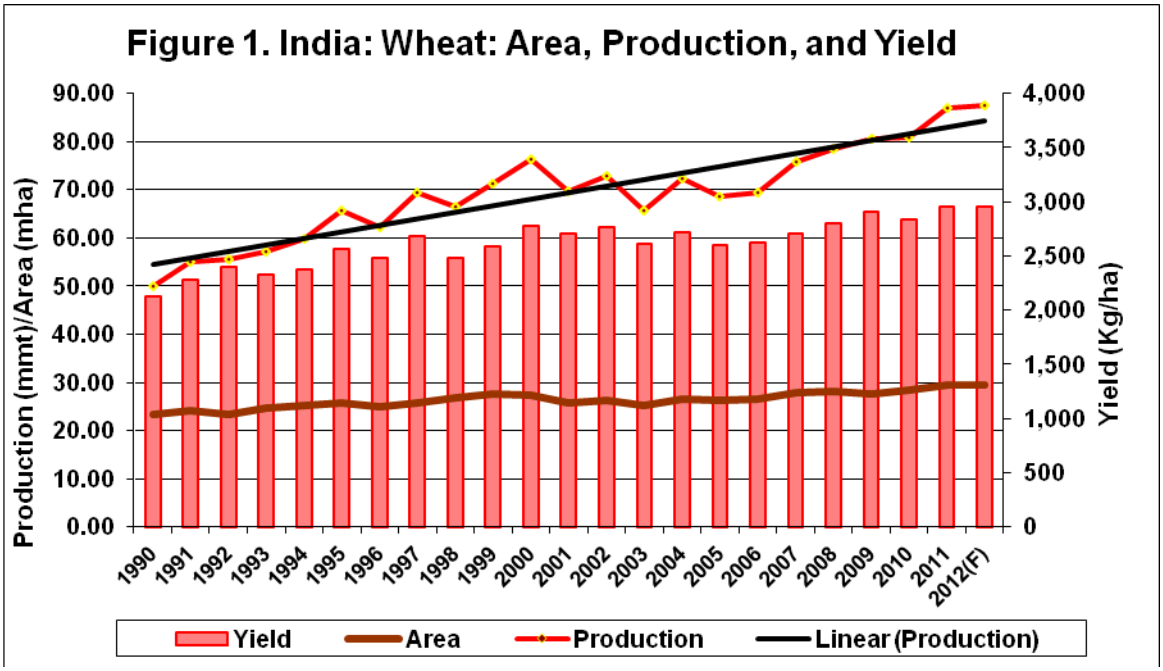
Production:

India is heading for the fifth consecutive record wheat harvest this summer on a marginal increase in the planted area and optimal growing conditions in the major growing areas so far. Assuming normal weather conditions through harvest (April), Post currently forecasts marketing year (MY) 2012/13 wheat production to increase to a record 87.5 million tons from 29.6 million hectares compared to 86.9 million tons from 29.4 million hectares last year. The government's preliminary 2012 wheat production estimate is higher at 88.3 million tons on slightly optimistic yield expectations as high temperature during harvest may temper yield prospects.

Above-normal 2011 monsoon rainfall coupled with the timely announcement of the increase in the minimum support price (MSP) by the Government of India (GOI) supported MY 2012/13 wheat planting. Consequently, wheat sowing was timely (October/November) under favorable soil moisture and temperature conditions in most growing areas. Wheat area has already peaked in the wheat surplus states of North India (Punjab, Haryana and West Uttar Pradesh), but there has been a marginal planting increase in Madhya Pradesh, Chhattisgarh and Bihar.

Although over 91 percent of India's wheat crop is irrigated, winter temperatures and precipitation critically influence the yield prospects in most of the growing areas. Growing conditions so far have been favorable due to scattered rains and prolonged cool temperatures during the crop growth/early tiller stage (December-February). There have been no reports of damage due to pest and disease incidence, or weather aberration (extended cold spell). Despite favorable weather conditions so far, an early rise in temperature during grain filling stage (March), and rains/hailstorms at harvest stage (March/April) could affect the overall crop yield and quality. Consequently, Post anticipates the MY 2012/13 wheat yield nearly same as the last year's record yield of 2.96 tons/hectare.

Indian wheat is largely a soft/medium hard, medium protein, white bread wheat, somewhat similar to U.S. hard white wheat. Wheat grown in central and western India is typically hard, with high protein and high gluten content. India also produces around 1.0-1.2 million tons of durum wheat, mostly in the state of Madhya Pradesh. Most Indian durum is not marketed separately due to segregation problems in the market yards. However, some quantities are purchased by the private trade at a price premium, mainly for processing of higher value/branded products. Farmers are increasingly shifting from durum wheat to higher yielding non-durum varieties as the durum yield is significantly lower than regular wheat's and the government's continued increase of MSP has reduced the price premium.



Source: Ministry of Agriculture, GOI; and FAS/New Delhi estimates for MY 2012/13

After tottering below the production linear trend line for most of the last decade, India's wheat production has pulled above the trend line in the last two years on record planting and yields owing to government's steady increase in MSP and favorable growing conditions. Nevertheless, wheat yields across the major growing states show large variation owing to status of irrigation facilities and technology adoption. Wheat yields in the largely irrigated traditional growing areas of the north (Punjab, Haryana and Western Uttar Pradesh) are above 4.0 metric tons per hectare, while yields in central and western states (Rajasthan, Gujarat, Madhya Pradesh, Bihar) are relatively low (around 2.0 metric tons per hectare) due to inadequate irrigation facilities, poor seed replacement rate, and low input use.

Unscientific irrigation practices and over-exploitation of ground water are increasingly causing water table depletion and soil salinity in many wheat growing pockets in north India. Depletion of irrigation water resources is likely to pressure wheat cultivation in north India in the next few years as farmers are likely to explore less water intensive crops. Most of the existing wheat varieties, which were released more than a decade ago, are showing signs of fatigue. The Indian Council of Agricultural Research (ICAR) research institutes and various state agricultural universities (SAUs) continue to develop new wheat varieties with higher yield potential and better grain qualities, largely through traditional breeding methods. Given that wheat seed production and marketing are largely done by public sector institutions, the new wheat varieties have failed to make sufficient inroads due to limited seed multiplication, distribution and extension facilities. Although Indian policymakers and scientists acknowledge that biotechnology can be a valuable tool for meeting India's growing food needs, current biotechnology applications in wheat are limited to experimental marker-assisted breeding for biotic, abiotic and quality traits.

Indian wheat cultivation is currently facing two major threats – global warming/climate change and Ug99. The potential vulnerability of India's wheat crop to changing climatic conditions, particularly the

'earlier-than-normal' rise in temperatures at the grain filling stage (March/April), is a serious concern for the policy makers and the research community. According to some local scientists, a one-degree Celsius rise in temperature during the growing season can result in a 3-to-4 percent decrease in grain yield. Of the 29 million hectares under wheat in India, about 9-10 million hectares are prone to terminal heat stress. ICAR and the SAUs are closely researching the potential climate risks to wheat crop to develop appropriate response mechanisms and technologies to mitigate risks.

Although Indian agricultural scientists assert that the agro-climatic conditions in the major wheat belt of north India are not conducive to the spread of Ug99, the highly mutative nature of the Ug99 strain could make Indian wheat varieties vulnerable to this rust, as more than three-fourths of the wheat varieties planted in India are highly susceptible to Ug99. ICAR and the SAUs continuously survey and monitor the wheat crop for various rusts, including Ug99. ICAR is also screening newly released wheat varieties in the country as well as varieties in the pipeline against the Ug99 stem rust. Most of the local varieties, such as PBW 343, PBW 502 and HD 2687, are susceptible to Ug99. The government has been encouraging replacing the susceptible varieties with Ug99-resistant varieties like DBW 17, PBW 550, and HW 542.

Consumption:

Wheat consumption in MY 2012/13 is forecast to increase to 85.0 million tons on sufficient domestic supplies (record production and large government stocks) and expected higher supplies of government-held subsidized wheat through the Public Distribution System (PDS) as the government prepares to launch the proposed National Food Security Bill.

Wheat consumption in MY 2011/12 is estimated at 83.1 million tons, about two percent higher than last year due to higher government wheat sales under the PDS program. In May/June 2011, the government announced an additional allocation of 5.0 million tons of food grains to below poverty line (BPL) families and 5.0 million tons to above poverty line (APL) families to the state government for distribution through the PDS. The GOI also made wheat available to bulk users and private traders at subsidized prices through an open market sale program, but the off-take has been limited as open market prices were below the government wheat sale prices in most markets, and also the sales process is considered highly bureaucratic and cumbersome by the private trade. Nevertheless, provisional official estimates indicate that total sales of government wheat during April 2011 through January 2012 was about 20 million ton, about 7 percent higher than last year's off-take during the comparable period.

With the Indian economy growing steadily and the middle class expanding, Indian households are diversifying their consumption pattern with the inclusion of high-value and higher-protein items, like fruits, dairy products, meat, and processed foods in the consumption basket. Recent National Sample Survey Organization surveys indicate that per-capita consumption of wheat at household levels (mostly wheat flour) has been relatively flat over the last decade (see Table 3). Wheat consumption in India is mostly in the form of homemade *chapattis* or *rotis* (unleavened flat bread), using custom milled *atta* (whole wheat flour). However, branded and packaged wheat *atta* marketed by large food companies is gaining market share in urban areas due to convenience. Some wheat is also used for various wheat-based processed products like bread, biscuits and other bakery items and their share is rising.

There are about 1,000 medium to large flourmills in India, with a milling capacity of around 24 million tons, which manufacture mostly *maida* (flour), semolina, and residual flour to cater to institutional demand. However, the average capacity utilization by these mills is only around 50 percent, processing about 12 million tons wheat every year. Typically, whole wheat is distributed through the public distribution system to be subsequently custom milled by the household for home use. The balance of production not marketed by farmers, after retention of some quantities for seed use for the next season, is custom milled mostly in the *chakkies* (small flour mills). Small quantity of wheat, mostly spoiled or of inferior quality, is also used for animal feed. Market sources report increased usage of wheat in the last two years due to relatively low wheat prices and higher leakages from the government PDS system.

Government Procurement and Food Subsidy Swell

Riding on back-to-back record harvests, and a steady increase in the government's support price over the last few years, government food grain procurement has mounted. Government wheat procurement in MY 2011/12 leapt to a record 28.3 million tons, nearly 26 percent higher than last year. Record production and higher MSP are likely to fuel the MY 2012/12 wheat procurement further to over 32.0 million tons. The Food Corporation of India (FCI) and state governments are facing a shortage of storage capacity due to substantial procurement of food grains since 2008/09, particularly in the major procuring states of Punjab and Haryana. With FCI's current covered storage capacity estimated at around 30.0 million tons, large quantities of wheat have been kept open under Covered and Plinth (CAP) storage, especially during (May-July) and after (August-December) the procurement period. Market sources report that last year over one million tons of wheat was stored in the open without CAP storage. Storage under these conditions results in significant losses due to rains, temperature fluctuations, rodent/pests and pilferage.

Table 1. India: Government Wheat Procurement and PDS Operation

Marketing Year (April-March)	Production	GOI Procurement[1]	MSP	GOI Total Cost	Off-take from GOI Stocks	PDS Issue Price			Food Subsidy
UOM	(Million Tons)	(Million Tons)	Rs. per ton	Rs. Per ton	(Million Tons)	Rs. per ton			Rs. Billion
						APL	BPL	AAY	
2005/06	68.64	14.79 (21.6)	6,400	10,419	16.71	6,100	4,150	2,000	230.80
2006/07	69.35	9.23 (13.3)	7,000	11,778	11.88	6,100	4,150	2,000	240.10
2007/08	75.81	11.13 (14.6)	8,500	13,118	12.25	6,100	4,150	2,000	312.60
2008/09	78.57	22.69 (28.9)	10,000	13,806	14.89	6,100	4,150	2,000	437.50
2009/10	80.68	25.38 (31.5)	10,800	14,246	22.38	6,100	4,150	2,000	582.42
2010/11	80.80	22.51 (27.8)	11,000	15,130	23.03	6,100	4,150	2,000	605.99
2011/12	86.87	28.33 (32.6)	11,700	16,960	24.8[2]	6,100	4,150	2,000	605.7[3]
2012/13[2]	87.50	32.00 (36.6)	12,850	na	na	6,100	4,150	2,000	na

Source: Ministry of Agriculture and Food Corporation of India, GOI

Notes: Exchange rate Rs. 49.6 = US$ 1 on February 17, 2012

[1] Figure in parentheses is GOI procurement as percentage of total production

[2] FAS/New Delhi estimate

[3] GOI budget estimate, actual expected to be higher
PDS - Public Distribution System
APL - Above Poverty Line
BPL - Below Poverty Line
AAY -*Antyodaya Anna Yojana* (Poorest of the Poor)

The government sales price of wheat under PDS programs has been unchanged since July 2002, while the support price paid to farmers has jumped by about 83 percent in the past seven years which has raised the government's cost price to Rs. 16,960 ($346) per ton in 2011/12. Rising procurement costs without an increase in sales prices is pushing up the GOI's food subsidy spending, which is budgeted at Rs. 606 billion ($12.4 billion) in Indian Fiscal Year (IFY) 2011/12, and is expected to increase further in IFY 2012/13 due to higher costs (higher MSP, storage, interest, etc costs) and larger off-take of wheat under PDS.

The GOI has embarked upon enacting an ambitious National Food Security Act (NFSA) that will provide a statutory framework for entitling certain minimum quantities of food supplies to specified beneficiary families at subsidized prices by the government. On December 22, 2011, the government submitted a heavily debated Food Security Bill to the Parliament that proposes to create a legal entitlement to subsidized food grains for 63.5 percent of India's population, including 75 percent of rural and 50 percent of urban dwellers (See IN1213). The bill if approved in its present form will enhance the government's food grain deliveries under the PDS to nearly 64 million tons from the current legal entitlement of 39 million tons, and inflate the food subsidy bill to about Rs. 1 trillion (approximately USD 20 billion) in Indian fiscal year (April/March) 2012/13 compared to the current estimated outlay of Rs. 670 billion ($14 billion) in IFY 2011/12. The bill could not be taken up in the last parliamentary session, but has gone to a standing committee for further review before being introduced for passage in a future parliamentary session. While a section of the ruling government seems to be pushing for an early implementation of the proposed law, it may take some time for the government to get parliamentary approval and eventually to implement it. However, the government can also explore the option of phased implementation of the proposed act in selected states before the bill is passed by the Parliament.

Market Price Steady on Sufficient Supplies

Despite the government allowing exports of wheat in September 2011, the domestic market has been largely insulated from global price movement due to government's MSP procurement and PDS distribution operations. Market prices during CY 2011 have moved in a narrow range (see Table 4) as the government has ensured steady supplies from government stocks during the second half of calendar year 2011. Despite relatively weak international prices, domestic prices during the last quarter of the CY 2011 were steadied by the government's announcement of raising the MSP for the upcoming season. Despite the expectation of another record crop, current wheat prices are around Rs. 11,500-12,800 ($235-260) per metric ton in major markets. Market prices during MY 2012/13 are expected to remain steady in a narrow range around the MSP (Rs. 12,850 per ton) on sufficient domestic supplies and expected weak export off-take. However, domestic prices will respond if there is a significant upward movement/flare up in the wheat prices in the international market.

Trade:

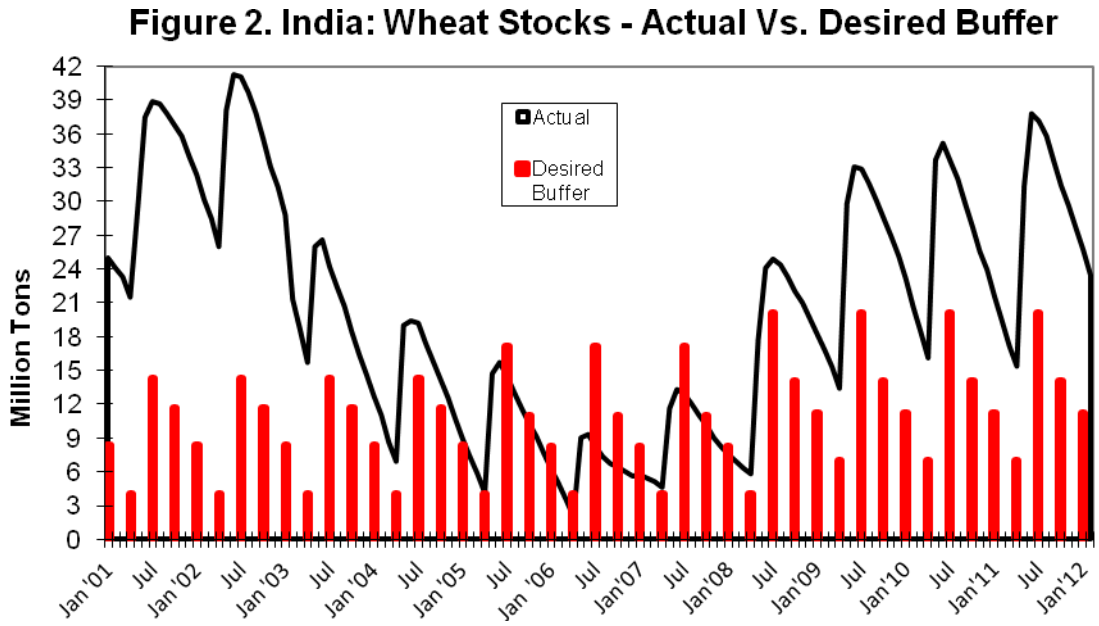
In September 2011 the export ban on wheat was removed but Indian wheat exports have been small/limited due to uncompetitive prices and quality issues. Assuming the current export price parity for Indian wheat *vis-à-vis* other origins, MY 2012/13 wheat exports are forecast at 1.5 million tons, mostly limited to private exports to neighboring Bangladesh, Middle East, Africa and South Asia. Despite forecast record production, expected strong government procurement at high MSP is likely to keep the domestic prices firm. While the government will be under tremendous pressure of inadequate warehouses/storage facilities for the new wheat crop procurement, the cost of government wheat is prohibitively high ($346) compared to current international prices. The government is unlikely to subsidize exports of government wheat due to local political and World Trade Organization commitment concerns. However, wheat export prospects can improve if there is a significant increase in global wheat prices. While actual export volumes will depend on the competitiveness of Indian wheat during the marketing year, India has sufficient domestic supplies to export 5-6 million tons of wheat, especially if the government allows export of government wheat in case international prices exceed total cost.

MY 2011/12 wheat exports are estimated at 700,000 tons as Indian wheat has not been very price competitive in the international market since exports were allowed in September 2011. Market sources report that due to the considerable delay in the decision to allow export of wheat, India could not take advantage of high global wheat prices in the early part of MY 2011/12. Global wheat prices had eased significantly by the time the government announced removal of the export ban on wheat. While the official trade figures are not available, market sources report that wheat shipment through mid-February is estimated at about 540,000 metric tons, including 75,000 metric tons of wheat shipped to Afghanistan under a government-to-government donation. Currently, some Indian wheat is being shipped in containers, mostly to Middle East and South Asian countries. In addition, wheat product shipment is estimated at 60-70,000 tons (wheat equivalent), mostly wheat flour. At the current pace of exports, MY 2011/12 exports are estimated to reach 700,000 tons.

Despite the continuation of the zero import duty policy, opportunities for imports of wheat into India since MY 2011/12 have been precluded as the imported wheat is relatively costlier to local millers *vis-à-vis* local wheat after accounting for the shipping, clearance and inland transport costs.

Stocks:

Due to record government wheat procurement in MY 2011/12, government-held wheat stocks on April 1, 2012, are forecast higher at 18.5 million tons compared with 15.36 million tons on April 1, 2011. Thus, MY 2011/12 ending stocks are nearly three times the government's desired stocks of 7 million tons (4.0 million tons buffer and 3.0 million tons of strategic reserve). With government wheat procurement likely higher at 30.0 million tons, government wheat stocks on July 1, 2012 could cross 40.0 million tons compared to the previous record stocks of 38.9 million tons on July 1, 2001. MY 2012/13 ending stocks are forecast higher at 19.5 million tons despite expected higher off-take under the PDS as higher total cost of government wheat will limit open market sales. Estimates of privately-held wheat stocks are not available, but are expected to be minimal. The PS&D table does not include privately-held stocks.



Source: The Food Corporation of India, GOI.

Policy:

The Government of India (GOI) supports research, development and extension activities for transfer of new varieties and improved production technologies (seed, implements, pest management) to farmers. ICAR conducts wheat research and development at the national level, which is complemented by state agricultural universities, regional research institutions, and state agricultural extension agencies at the regional and state levels. The central and state governments also support farmers by subsidizing input supplies and agricultural credit at affordable prices.

In 2007, the government launched a National Food Security Mission (NFSM) (http://nfsm.gov.in/) to address food security concerns due to the slowdown in the growth of food grain production in the last decade (2000). The NFSM aims to increase the country's wheat, rice, and pulse production by 8, 10 and 2 million tons respectively by the end of the 11th Five Year Plan (2011/12) to ensure food security. Given that further growth in area under wheat is limited due to inadequate irrigation resources and competition from other crops, the NFSM seeks to bridge the yield gap through promotion and dissemination of improved technologies – seed, integrated nutrient management, integrated pest management and resource conservation technologies-particularly in the western and central states. India's forecast production estimate for crop year 2011/12 (July-June) shows that the NFSM has been successful in meeting the target in wheat, and the government is likely to continue with the program in the upcoming 12th Five Year Plan.

Besides the NFSM, other targeted programs like Integrated Cereals Development Program, the National Agriculture Development Program (*Rashtriya Krishi Vikas Yojana*) and Special Program to Bring the Green Revolution to Eastern India are being implemented by GOI through the state governments.

The GOI establishes a MSP for wheat on the basis of recommendations by the Commission for Agricultural Costs and Prices (CACP). Government parastatals like the Food Corporation of India (FCI) and various state marketing agencies have the mandate to procure wheat at the MSP for central government stocks. Subsequently, the government allocates wheat for distribution through the public distribution system and welfare schemes at a subsidized price. In years of surplus procurement and stocks, the government sells wheat in the open market to the private trade at market prices. The government policies relating to the MSP for essential agricultural crops and the price for the PDS supply serve the twin objectives of providing remunerative prices to farmers and affordable prices to poor consumers.

The government revoked the ban on futures trading in May 2009, which had been imposed in February 2007. Since 2007, the GOI has permitted states to impose stock limits on private trade of wheat under the Essential Commodities Act. Since 2008, the government has asked large food companies and trading companies operating in India to declare their stock levels.

On September 9, 2011, the GOI removed the ban on exports of wheat, which had been enforced since February 2007, with some exceptions – occasionally allowing exports to countries like Nepal, Bangladesh and Afghanistan on humanitarian grounds. The government also permits an export quota of 650,000 metric tons of wheat products (not whole grain wheat) during a marketing year. Currently, wheat imports by the government and private trade incur zero import duty. The government lowered the duty on wheat imports to zero in September 2006 for a short period and this was subsequently extended indefinitely in October 2007. The GOI's phytosanitary requirement pertaining to the 31 specified quarantine weed seeds (wheat sample drawn from a single consignment not to contain more than 100 quarantine seeds per 200 kg sample) and other SPS issues have effectively barred U.S. wheat shipments to India.

Marketing:

The rapidly growing fast food industry and modernizing wheat-based food industry generate demand for specialty flours (used in pizzas and burger buns) that require varieties of wheat that India does not currently grow. In addition, market sources report occasional shortages of high-protein wheat for blending of flour for the rapidly growing baking/confectionary industry. However, U.S. wheat continues to be denied market access to India despite numerous discussions at technical and policy levels.

Production, Supply and Demand Data Statistics:

Table 2. India: Commodity, Wheat, PSD

(Area in Thousand Hectares, Quantity in Thousand Metric Tons)

Wheat India	**2010/2011**		**2011/2012**		**2012/2013**	
	Market Year Begin: Apr 2010		**Market Year Begin: Apr 2011**		**Market Year Begin: Apr 2012**	
	USDA	**New**	**USDA**	**New Post**	**USDA**	**New Post**

	Official	Post	Official		Official	
Area Harvested	28,360	28,460	29,400	29,400		29,600
Beginning Stocks	16,120	16,120	15,360	15,360		18,500
Production	80,800	80,800	86,870	86,870		87,500
MY Imports	272	272	25	25		0
TY Imports	199	199	25	25		0
TY Imp. from U.S.	0	0	0	0		0
Total Supply	97,192	97,192	102,255	102,255		106,000
MY Exports	72	73	700	700		1,500
TY Exports	60	75	700	700		1,500
Feed and Residual	150	150	200	250		400
FSI Consumption	81,610	81,609	82,855	82,805		84,600
Total Consumption	81,760	81,759	83,055	83,055		85,000
Ending Stocks	15,360	15,360	18,500	18,500		19,500
Total Distribution	97,192	97,192	102,255	102,255		106,000

Table 3. India: Per-Capita Availability of Wheat and Consumption at Household level

(Kilograms per annum)

Year	Availability	Household Consumption	
		Rural	Urban
1994/95	64.51	50.64	56.76
2000/01	65.63	55.08	54.84
2001/02	62.82	49.44	54.12
2002/03	71.40	50.64	55.08
2003/04	64.28	51.00	56.04
2004/05	66.97	50.30	52.31
2005/06	63.47	52.20	54.36
2006/07	65.58	47.68	53.14
2007/08	67.20	50.34	54.16
2008/09	61.44	na	na
2009/10	66.61	50.93	48.92
2010/11	68.53	na	na
2011/12	67.34	na	na

Source: Household consumption from various NSSO Surveys, GOI.

Note: Per-capita availability derived from consumption and population estimate. Per-capita availability includes, household consumption, processed wheat products, seed and others

Table 4. India: Commodity, Wheat, Prices Table

Prices In	Rupees	per uom	metric tons
Year	2010	2011	%Change
Jan	13600	13450	-1.1
Feb	14300	13450	-5.9
Mar	13500	12450	-7.8
Apr	12250	12300	0.4
May	11500	11900	3.5
Jun	12300	11900	-3.3

Jul	12250	12000	-2.0
Aug	12350	11800	-4.5
Sep	12300	12000	-2.4
Oct	12300	12100	-1.6
Nov	12600	12450	-1.2
Dec	13200	12650	-4.2
Exchange Rate	49.6	Local Currency/US$	
Date of Quote	02/17/2012	MM/DD/YYYY	
Month-end Delhi Wholesale Prices for Common Wheat			
Source: Department of Consumer Affairs, GOI			

Commodities:
Rice, Milled

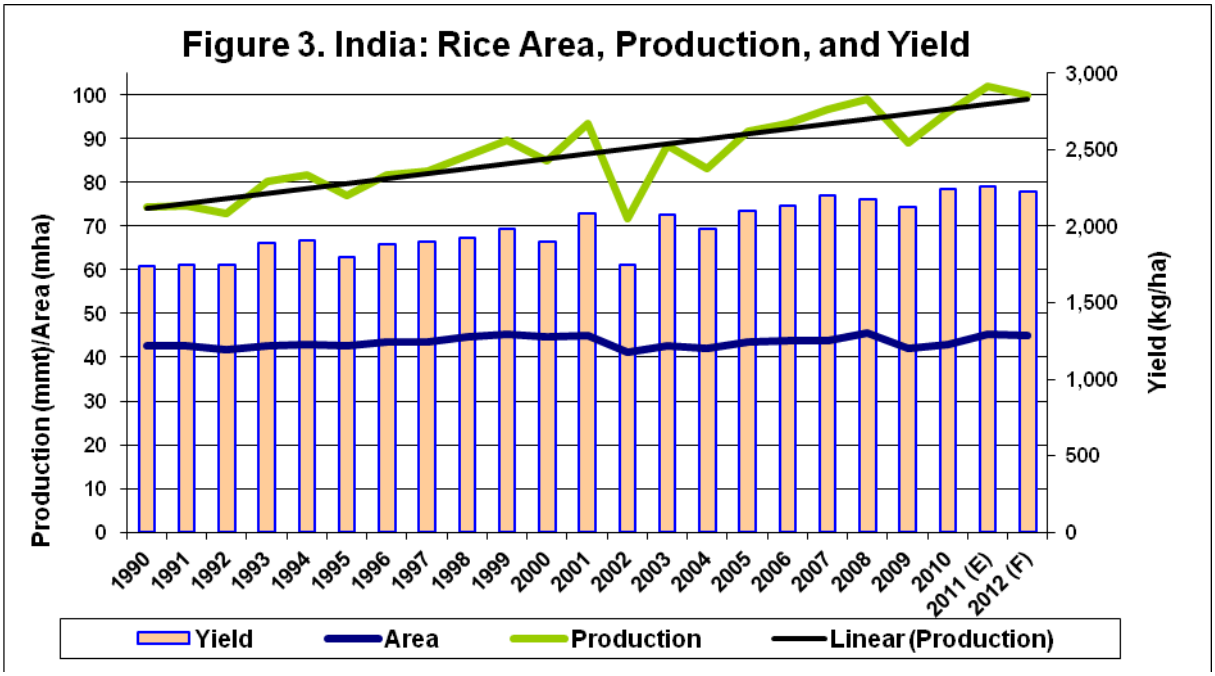
Production:

Assuming normal 2012 monsoon rains (June-September) and weather conditions, Post forecasts MY 2012/13 rice production at 100 million tons from 45.0 million hectares, marginally lower than the estimated MY 2011/12 record production of 102 million tons. Relatively stable paddy (unmilled rice) prices and record yields in MY 2011/12, and the GOI's continued emphasis on rice production through the NFSM should encourage farmers to plant rice next year. However, there will be a shift in area out of long-grain Basmati rice in north India (Punjab, Haryana and western Uttar Pradesh) as farmers realized relatively low prices on bumper production and weak demand by rice millers who were carrying large carryover stocks from MY 2010/11. The government's continued focus on expanding the gains of the Green Revolution in the rice growing regions of eastern India through promotion of hybrid rice cultivation, intensification techniques and other modern production techniques will support a MY 2012/13 near-record production forecast, provided 2012 monsoon rains are timely and normal in volume and distribution.

MY 2011/12 rice production is estimated at a record 102 million tons from 45.2 million hectares. Sufficient and well distributed 2011 monsoon rains and overall favorable weather conditions supported a higher *kharif* (fall/early winter harvested) rice crop in the major rice belt. Although the area planted to *rabi* (winter planted, spring harvested) rice is provisionally estimated marginally lower compared to last year, sufficient soil moisture and irrigation water availability due to good 2011 monsoon should support a good harvest. The government's recently released second advance estimate also place MY 2011/12 rice production marginally higher at 102.7 million tons (90.2 million tons *kharif* and 12.6 million tons *rabi*), but these estimates are subject to future revisions.

Rice is one of the most important food crops of India, contributing to about 40 percent of total food grain production. Rice is predominantly a rain-fed crop, except in the states of Punjab, Haryana, Uttar

Pradesh and Andhra Pradesh, where a significant share of the crop is irrigated. Most rice is planted in the *kharif* season after the onset of monsoon in June. However, there is a small *rabi* crop taken in the states of West Bengal, Andhra Pradesh, Orissa and Tamil Nadu. Use of high-yielding seed varieties is largely confined to the states that use irrigation. Fertilizer application at the national level is not high, but is near optimum in these states.



Source: Ministry of Agriculture and FAS New Delhi estimates for 2010/11 and 2011/12

Although rice production has also shown a steady upward trend, production is subject to wide year-on-year fluctuations (compared to wheat), as a significant portion (42 percent) of the crop is not irrigated. Experts report that the rice growing area has hit a plateau at 45 million hectares, leaving yield improvements as the way to expand production and meet demand from the growing Indian population. Indian rice yields are below the world average, implying potential for increased production. There is wide variation in the levels of rice productivity among the major producing states in the country, and immense scope for increasing productivity by expanding assured irrigation facilities in many states. The government is also focusing on developing appropriate technologies to enhance rice productivity under rainfed conditions. In 2010/11, the government launched a Special Program to Bring the Green Revolution to Eastern India by promoting the Green Revolution and other improved technologies to the eastern region of the country comprising Bihar, Chhattisgarh, Jharkhand, eastern Uttar Pradesh, West Bengal, and Odisha.

Some of the surplus rice growing states with the intensive rice-wheat or rice-rice cropping systems are facing severe environmental concerns, such as declining soil health and falling water tables. However, a significant cropping shift is not imminent in the near future due to the government's continued emphasis on rice-wheat production for food security reasons and a lack of more profitable crop rotation

alternatives. The government is promoting "System of Rice Intensification" technology in some rice growing states, which requires less water and chemical fertilizer. Indian rice cultivation also faces the challenge of climate change as a significant share of rice production is produced in coastal regions, which are susceptible to a rise in the sea level. Finally, glacier melting and possible aberrations in the monsoon rain patterns may affect the rice crop in the mainland.

Long-Grain Basmati Rice: India's long-grain Basmati rice production has been growing strongly after the introduction of the PUSA 1121 variety, an evolved high-yielding variety, grown mostly in Punjab, Haryana and western Uttar Pradesh. Although no official figures are available, industry sources report Basmati rice production in MY 2011/12 at 5.8 million tons from 1.8 million hectares, about 20 percent higher than last year in response to higher prices *vis-à-vis* the MSP for common rice varieties. Record Basmati production coupled with low demand from the rice milers led to a strong decline in Basmati paddy prices paid to farmers, so farmers are expected to move away from Basmati rice in the upcoming MY 2012/13 season. Consequently, Basmati production in MY 2012/13 is forecast to decline to 4.5 million tons from 1.5 million hectares.

Hybrid Rice: Despite various government promotion programs, area under hybrid rice is estimated at only 1.5 million hectares in 2011/12, mostly in eastern India: eastern Uttar Pradesh, Bihar, Jharkhand, and Chhattisgarh. There are about 46 varieties of hybrid rice, of which 26 are popular in the market. The major challenge facing hybrid rice seed producers in India is the inability to cater to the vast diversity in consumer preference for rice, low incremental yields, and irrigation and chemical input use requirements over traditional varieties. Additionally, farmers face marketing problems due to reported low milling rates and poor cooking quality of hybrid rice *vis-à-vis* popular varieties. Nevertheless, several private seed companies and public sector institutions are involved in developing better hybrid seed varieties, which should accelerate hybrid rice adoption by Indian farmers. The National Food Security Mission has set a target to cover 3 million hectares of rice area under hybrid rice by the year 2011-12 in order to achieve the objective of increasing rice production by 10 million. Efforts are underway, mostly in the private sector, to develop transgenic rice varieties and hybrids to incorporate resistance to various pests, diseases and abiotic stresses. However, approvals and commercialization of transgenic rice are still years away.

Consumption:

Rice consumption in MY 2012/13 is forecast higher at 96 million tons compared to 94 million tons in MY 2011/12 on expected sufficient domestic supplies and continued higher sales of government rice through the PDS. Due to relatively tight domestic supplies and consequent higher market prices in MY 2009/10, the government released additional rice from its stocks for distribution through the PDS at subsidized prices and also allowed higher open market sales to private trade. With market prices easing, rice consumption in MY 2010/11 is estimated to increase to 91 million tons compared to 85.8 million tons in MY 2009/10.

Rice is the major staple food for about 65 per cent of the country's population, and thus an important pillar for food security of India. More than 4,000 varieties of rice are grown in India to meet the varied consumer preferences. The NSSO surveys show that per-capita household consumption of rice has also been gradually going down in recent years as consumers shift to higher value foods (see Table 7).

For government procurement purposes, rice is classified into two categories - Common (length to breadth ratio less than 2.5) and Grade A (length to breadth ratio more than 2.5). Historically, most government-procured rice came from millers who mandatorily sold the government a portion of their milled rice (ranging from 75 percent in Punjab and Haryana to 50 percent in Andhra Pradesh, and even lower in marginal surplus states) at pre-established rates, called the "levy price," which is linked to the support price of paddy plus milling costs. However, in recent years, most of the procurement by the government has been in the form of paddy bought at the support price, which is subsequently custom-milled by the government with private millers for storage and distribution through PDS.

Table 5. India: Government's Rice Procurement and PDS Operation

Marketing Year	Production	GOI Procurement[1]	MSP for Paddy (Unmilled Rice Common variety)	GOI Economic Cost	Off-take from GOI Stocks	PDS Issue Price			Food Subsidy
(Oct-Sept)	(Million Tons)	(Million Tons)	Rs. per ton	Rs. Per ton	(Million Tons)	Rs. per ton			Rs. Billion
						APL	BPL	AAY	
2005/06	91.79	27.58 (30.0)	5,700	13,397	na	7,950	5,650	2,000	230.80
2006/07	93.35	25.11 (26.9)	6,200	13,912	na	7,950	4,150	2,000	240.10
2007/08	96.69	28.74 (29.7)	7,450	15,499	na	7,950	4,150	2,000	312.60
2008/09	99.18	34.10 (34.4)	9,000	17,407	25.69	7,950	4,150	2,000	437.50
2009/10	89.09	32.03 (36.0)	10,000	18,201	28.35	7,950	4,150	2,000	582.42
2010/11	95.98	34.20 (35.6)	10,000	21,460	31.97	7,950	4,150	2,000	605.99
2011/12	102.00[2]	37.00(36.3)[2]	10,800	Na	34.00[2]	7,950	4,150	2,000	605.7[3]

Source: Ministry of Agriculture and Food Corporation of India, GOI

Notes: Exchange rate Rs. 49.6 = US$ 1 on February 17, 2012

[1]- Figure in parenthesis is GOI procurement as percentage of total production

[2] - FAS/New Delhi estimate
[3] - GOI budget estimate, actual expected to be higher
PDS - Public Distribution System
APL - Above Poverty Line
BPL - Below Poverty Line
AAY -*Antyodaya Anna Yojana* (Poorest of the Poor)

Riding on record production and a significant increase in the MSP, government rice procurement during MY 2012/13 has been very strong. As on February 14, 2012, government rice procurement was 23.6 million tons compared to 20.9 million tons last year during the corresponding period. The total GOI procurement in MY 2011/12 is expected to cross 37.0 million tons, more than 8 percent increase over the last year's record procurement. As in the case of wheat, the government has not increased the sales price of rice distributed through the PDS since July 1, 2002, while the MSP has been raised to nearly double in the last six years, contributing to the GOI's increasing food subsidy budget.

Prices Steady on Sufficient Supplies

Rice prices in the domestic market have fluctuated in a narrow range (see Table 8) due to sufficient domestic supplies and higher sales of government rice through PDS. Despite substantial exports of non-Basmati rice since September, market prices have not shown any upward trend with the arrival of the record MY 2011/12 harvest. Market prices during the remaining MY 2011/12 are expected to remain steady on record sufficient domestic supplies and large government stocks that can be used to control prices, if needed.

Trade:

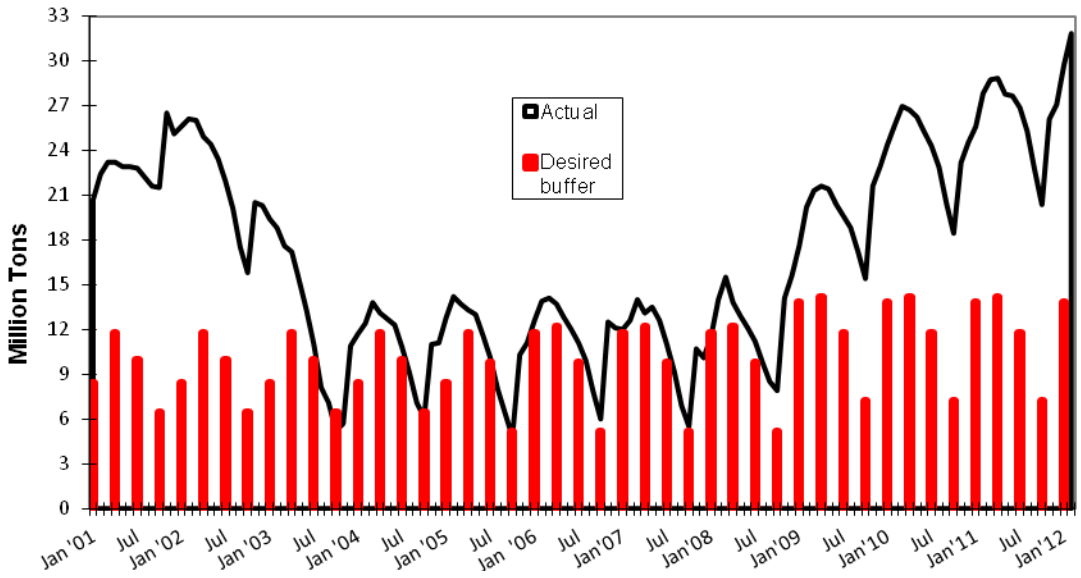
Assured of record MY 2011/12 rice production, 'more-than-sufficient' government procurement for the PDS, and steady domestic prices, the government is unlikely to impose any export controls on non-Basmati and Basmati rice in the near future (see IN2016). Based on the current pace of exports, MY 2011/12 rice exports are likely to reach 6.5 million tons (3.8 million tons non-Basmati and 2.7 million tons of Basmati rice). Given forecast sufficient domestic supplies, India's rice exports for MY 2011/12 is forecast at 6.0 million.

Based on preliminary official trade data, India's MY 2010/11 exports are estimated at 2.8 million tons compared to 2.08 million tons last year (exports were mostly Basmati rice as non-Basmati rice exports were banned during the period). After the government lifted the ban on exports of non-Basmati rice in September, Indian non-Basmati rice became very competitive in the global market. Market sources report that India shipped about 2.2 million tons of non-Basmati by the end of January 2012, mostly to Bangladesh, African, Middle East and some South Asian countries. Exports in CY 2011 through October were significantly higher at 2.8 million tons (see Table 9), nearly 1 million tons higher than last year during the same period. With reports of strong exports of non-Basmati rice in November and December, CY 2011 is estimated to reach 4.2 million tons.

Stocks:

Following strong rice procurement in the ongoing MY 2011/12, government-held rice stocks on February 1, 2012, expanded to 31.8 million tons compared to 27.8 million tons at the same time last year. Government stocks are projected at 21.5 million tons on October 1, 2012 (MY 2010/11 ending stocks), compared to 20.4 million tons on October 1, 2011. There is no published information, official or industry, about the privately held rice stocks. Industry sources report privately held MY 2010/11 ending stocks were around 3.1 million tons and will be around the same level at the end of MY 2011/12. The rice PS&D table includes both government stocks and estimated privately held stocks.

Figure 4. India: Rice Stocks - Actual Vs. Desired



Source: The Food Corporation of India.

Policy:

The government follows the same production policy for the two most important food crops – rice and wheat. Additionally, the GOI, with the support of state governments, has undertaken various rice-specific development schemes like the Special Rice Development Program (SRDP), NFSM, Promotion of Hybrid Rice, etc. The government also undertakes the domestic price support, procurement and distribution program in rice similar to wheat. Concerns about price inflation led to the GOI to ban futures trading in rice as of September 2007.

Back-to-back bumper rice production, "more-than-sufficient" government food grains stocks, and relatively weak domestic prices prompted the government to remove the export ban on non-Basmati rice from September 9, 2011. The ban on non-Basmati rice had been in effect since September 2007, except

for some ad-hoc exceptions to some countries on humanitarian grounds. Exports of Basmati rice continued to be allowed subject to a minimum export price (MEP), which is currently $900 per ton.

In March 2008, the GOI removed the import duty on rice. The zero duty is currently effective through March 31, 2012, although there has been no importation of rice in the recent past.

Marketing:

Indian high-quality Basmati and select premium 'short grain' varieties compete against U.S. rice in several markets, particularly Middle East and European countries.

Production, Supply and Demand Data Statistics:

Table 6. India: Commodity, Rice, Milled, PSD

(Area in thousand hectares and quantity in thousand metric tons)

Rice, Milled India	2010/2011 Market Year Begin: Oct 2010		2011/2012 Market Year Begin: Oct 2011		2012/2013 Market Year Begin: Oct 2012	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested	42,700	42,860	45,200	45,200		45,000
Beginning Stocks	20,500	20,500	23,000	23,000		24,500
Milled Production	95,980	95,980	102,000	102,000		100,000
Rough Production	143,984	143,984	153,015	153,015		150,015
Milling Rate (.9999)	6,666	6,666	6,666	6,666		6,666
MY Imports	0	0	0	0		0
TY Imports	0	0	0	0		0
TY Imp. from U.S.	0	0	0	0		0
Total Supply	116,480	116,480	125,000	125,000		124,500
MY Exports	2,800	2,800	6,500	6,500		6,000
TY Exports	4,200	4,200	6,000	6,000		6,000
Consumption and Residual	90,680	90,680	94,000	94,000		96,000
Ending Stocks	23,000	23,000	24,500	24,500		22,500
Total Distribution	116,480	116,480	125,000	125,000		124,500

Table 7. India: Per-Capita Availability of Rice and Consumption at Household level

(Kilograms per annum)

Year	Availability	Household Consumption	
		Rural	Urban
1994/95	86.18	83.88	64.08
2000/01	75.17	80.40	60.48
2001/02	85.16	81.24	56.64
2002/03	76.38	81.96	57.84
2003/04	80.57	81.60	58.56
2004/05	74.86	76.51	56.53
2005/06	77.50	78.48	57.48
2006/07	77.69	78.68	57.56
2007/08	79.76	76.37	56.98
2008/09	79.02	na	na
2009/10	72.98	72.02	56.53
2010/11	76.14	na	na
2011/12	68.28	na	na

Source: Household consumption from various NSSO Surveys, GOI.

Note: Per-capita availability derived from consumption and population estimate. Per-capita availability includes, household consumption, processed rice products, seed and others

Table 8. India: Commodity, Rice, Milled, Prices Table

Prices In	Rupees	per uom	metric tons
Year	2010	2011	%Change
Jan	20000	19400	-3.0
Feb	19750	19500	-1.3
Mar	19750	19500	-1.3
Apr	19500	19500	0.0
May	19000	19650	3.4
Jun	19500	19750	1.3
Jul	19000	19500	2.6
Aug	19000	19750	3.9
Sep	18800	19500	3.7
Oct	18750	19500	4.0

Nov	19000	19500	2.6
Dec	19750	19500	-1.3
Exchange Rate	49.6	Local Currency/US$	
Date of Quote	02/17/13	MM/DD/YYYY	
Month-end Delhi Wholesale Prices for Common Rice			
Source: Department of Consumer Affairs, GOI			

Table 9. India: Commodity, Rice, Milled, Export Trade Matrix

Time Period	Jan-Dec	Units	Tons
Exports for	CY 2010		CY 2011*
U.S.	15478	U.S.	60993
Others		Others	
U.A.E	628572	U.A.E	585833
Saudi Arabia	598279	Saudi Arabia	553799
Iran	338000	Iran	452636
Kuwait	131934	Kuwait	173669
Yemen	58134	Nigeria	145702
U.K.	37125	South Africa	92070
South Africa	23881	U.K.	86711
Sri Lanka	13485	Bangladesh	72797
Mauritius	12055	Yemen	64711
Netherland	9247	Singapore	33274
Canada	8943	Oman	22224
Total for Others	1859655	Total for Others	2283426
Others Not Listed	176588	Others	457492
Grand Total	2051721	Grand Total	2801911
* Provisional data for the period January thru October 2011			
Source: Directorate General of Commercial Intelligence, GOI			

Author Defined:

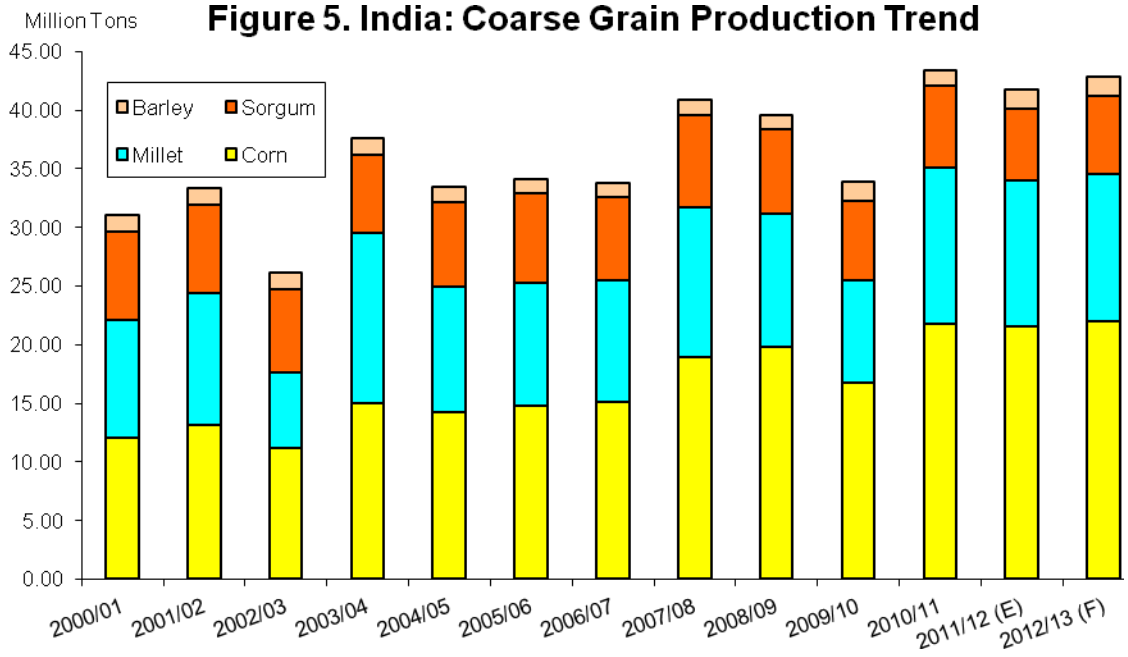
COARSE GRAINS

PRODUCTION

Assuming normal 2012 monsoon and weather conditions, MY 2012/13 coarse grain production is forecast higher at 42.9 million tons on expected higher acreage under corn and sorghum due to strong prices in the current season. The near record MY 2011/12 coarse grain production includes a record 22.0 million tons of corn, 12.5 million tons of millets, 6.7 million tons of sorghum, and 1.7 million tons of barley. With only 15 percent of the coarse grain area under irrigation, performance of 2012 monsoon

rains, both quantum and distribution across the country and period (June-September) will determine the area and size of coarse grain crops. Most of the coarse grains are cultivated in the *kharif* (fall and early harvested) season (75-78 percent), with some corn, sorghum and millets and barley taken as *rabi* (winter) season crop.

The above normal 2011 monsoon rains resulted in a higher area shift from coarse grains to the more water intensive rice crop, particularly from sorghum and millets. However, relatively strong corn prices during the later part of the MY2010/11 supported *kharif* corn planting, which was largely unchanged from last year. Further, sufficient late 2011 monsoon rains in September and relatively firm corn prices resulted in higher planting of *rabi* corn. According to the government's preliminary estimate, total coarse grain production in the Indian crop year (July-June) 2011/12 is slightly over 42.0 million tons, which is typically revised towards the end of the season. Post's total coarse grain production estimate for MY 2011/12 includes a near-record corn output of 21.5 million tons on higher area; millets and sorghum lower at 12.5 million tons and 6.1 million, respectively on lower area, and barley higher at 1.7 million tons on higher area (Indian crop year 2010/11).



Indian corn production in recent years has shown a steady upward trend due to continued expansion in area under hybrids, currently estimated to be around 60 percent. Rain-fed millet and sorghum production fluctuates year-to-year depending on the performance of the monsoon, as there has not been any significant productivity enhancing technology breakthrough for decades. These crops are also facing competition from other crops such as cotton, soybean, and pulses in several states. Barley production, a small winter crop in north India, has been relatively stagnant around 1.5 million tons over the past several years. Most barley production in India consists of feed-type, six-row varieties,

unsuitable for malting. Despite strong demand from India's growing malt-based beer industry, barley production has remained stagnant because of lower yields and returns vis-à-vis wheat. In the last few years a few good malting-type barley varieties have been developed under public-private breeding programs, which are gradually replacing feed barley. Trade sources report that some malting and brewing companies have started contract farming of malting type barley in Rajasthan, Punjab and Haryana.

CONSUMPTION

Coarse grain consumption is forecast at around 38 million tons in MY 2010/11, almost 3 million tons higher than the MY 2009/10 level. Food use accounts for a major share of coarse grain consumption, particularly in the case of sorghum, millet, and barley. Coarse cereals are the staple diet of millions of rural poor in India, particularly in the regions where they are grown. With coarse grains known for their richer nutrient and fiber contents, their consumption is picking up among the urban population, particularly "health conscious" and diabetes-prone Indians.

Corn ranks as the third most important grain crop in India after rice and wheat, because of its growing demand from the animal feed (poultry) and industrial use sectors. More than half of corn (9.7 million tons) goes for feed use, primarily for poultry feed; about 1.2 million tons is used by the starch industry and the rest goes for food use. In recent years, increased demand for corn is largely being fueled by the poultry industry, which has been growing at 12-15 percent per annum. Corn demand by the starch industry, mainly used by the textile industry, has been slightly depressed in MY 2010/11 due to a slowdown in textile demand, particularly exports.

Sorghum and millet are largely used for food and cattle feed. The high tannin content of Indian sorghum restricts its use in poultry rations, but its use in the production of spirits, industrial alcohol, and starch is reportedly increasing. Market sources report that relatively high corn prices have resulted in some usage of millet in poultry feed in MY 2011/12. Barley is used mainly for food and feed, although some new malting quality varieties are used (0.5 million tons) by the breweries.

India does not produce any ethanol for fuel from cereal grains. Thus, there has been no impact resulting from the domestic ethanol program (which is based on molasses from sugar) on the domestic market for food, feed and trade of cereal grains and its byproducts.

Prices Firm

Unlike rice and wheat, corn prices are affected by global price movements as exports are not restricted. Despite two consecutive bumper harvests in MYs 2010/11 and 2011/12, corn prices have remained firm in MY 201/12 on strong domestic demand and international prices. The average corn price across the major markets in February 2012 is estimated at Rs 10,905 ($220) per metric ton, over 10 percent higher than the average price in February 2011. Prices of other coarse grains have also been 8-10 percent higher than last year's level on lower production, compared to last year's record harvests.

TRADE

Although corn exports in MY 2012/13 will largely depend on the competitiveness of Indian corn prices in the global market, Post currently forecasts exports lower at 2.2 million tons on expected strong domestic demand. Corn exports in MY 2011/12 are estimated higher at 2.4 million tons on strong international demand in the first quarter of the season. The strong depreciation in the value of Indian rupee *vis-à-vis* U.S. dollar (see IN1212) strongly supported demand for U.S. corn. Although official figures are not available, market sources report that Indian traders have contracted over 1.5 million tons of corn through first week of February 2012, of which over 1.2 million tons has already been shipped. With the value of the Indian rupee appreciating since January 2012, Indian corn is currently barely competitive after being discounted for quality vis-à-vis other origins. However, India's ability to ship in relatively small lots is an important selling factor in neighboring and south Asian markets. Assuming stable global corn prices for the remaining part of the season, MY 2011/12 exports are estimated to reach 2.4 million tons.

The provisional official figures for corn exports for the first 8 months of MY 2010/11 (November-June) are estimated at 2.84 million tons compared to 1.45 million tons for the comparable period last year. Besides corn, India exports small quantities of sorghum, millet and barley, mostly to Middle Eastern countries for feed.

POLICY

The GOI production policy for coarse grains is similar to that for wheat and rice, but there is less focus on these crops. Also, the government's support of coarse grain via the procurement and PDS operation is very limited and ineffective compared to rice and wheat. Unlike wheat and rice, the government does not typically maintain a buffer stock of coarse grains to keep prices in check. The GOI does not allow use of food grains, including coarse cereals, for ethanol for fuel (see Gain Report IN1159). Efforts to produce ethanol from other feed stocks like sweet sorghum stalks and crop waste are still at an experimental stage.

Currently, there are no export restrictions on corn. However, in March 2007 the GOI had channeled exports of corn through government parastatals for six months, and exports were banned from July 3 to October 25, 2008.

India's existing trade policy allows imports of corn under a tariff rate quota (TRQ) of 500,000 metric tons at zero duty. Imports exceeding the TRQ are subject to a 50 percent import duty. However, imports of any biotech product, including genetically modified corn and products, are subject to approval by India's biotech regulatory agency, the Genetic Engineering Appraisal Committee (GEAC). The GEAC has not approved any biotech corn or byproducts for imports.

India's Corn TRQ Import Policy

- In June 2000, the GOI established a TRQ for corn imports, under which up to 500,000 tons of corn can be imported annually, subject to an in-quota tariff of 15 percent; above-quota imports face a 50 percent import duty.
- In February 2007 the government allowed duty free imports and removed TRQ through December 2007.
- In April 2008, the in-quota tariff was removed.
- The Ministry of Commerce and Industry, on April 7, 2006, announced a supplement to the GOI's Foreign Trade Policy (2004-2009), which required all imports containing products resulting from modern biotechnology to receive prior approval via the Genetic Engineering Appraisal Committee (GEAC), as well as mandating a positive declaration stating that the product is "genetically modified." Importers are responsible for providing this declaration, and likewise are liable to punitive action if the declaration is incorrect.
- The TRQ was not utilized in 2010/11 and it is unlikely to see imports under the TRQ in the coming marketing year.
- To import corn under TRQ at zero duty, the importer must obtain a Tariff Rate Quota Allocation Certificate issued by the Directorate General of Foreign Trade (DGFT). The Certificate is issued in accordance with the procedure as may be specified by the EXIM Facilitation Committee from time to time through a public notice. However, TRQ imports are managed only through specified state trading enterprises and cooperatives, and thus are not accessible to private trade.

Currently, there are no restrictions on exports of millet, sorghum, and barley, and imports are allowed subject to the effective import duty and phytosanitary conditions specified in the Plant Quarantine (Regulation of Imports into India) Order 2003. The basic import duty on sorghum and millets is 50 percent, and zero for barley. All grain imports are restricted on the basis of various phytosanitary issues such as weed seeds and ergot.

MARKETING

Although India currently does not import corn, the growth of the poultry and starch industries may eventually create demand for imported corn.

PS&D TABLES

Table 10. India: Commodity, Corn, PSD

Corn India	2010/2011 Market Year Begin: Nov 2010		2011/2012 Market Year Begin: Nov 2011		2012/2013 Market Year Begin: Nov 2012	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested	8,550	8,600	8,500	8,700		8,900
Beginning Stocks	453	453	653	803		713
Production	21,280	21,730	21,000	21,500		22,000
MY Imports	20	20	10	10		10
TY Imports	20	20	10	10		10
TY Imp. from U.S.	0	0	0	0		0
Total Supply	21,753	22,203	21,663	22,313		22,723
MY Exports	3,100	3,100	2,200	2,400		2,200
TY Exports	3,100	3,100	2,200	2,400		2,200
Feed and Residual	8,700	9,000	9,300	9,700		10,400
FSI Consumption	9,300	9,300	9,600	9,500		9,600
Total Consumption	18,000	18,300	18,900	19,200		20,000
Ending Stocks	653	803	563	713		523
Total Distribution	21,753	22,203	21,663	22,313		22,723

Table 11. India: Commodity, Corn, Prices Table

Prices In	Rupees	per uom	metric tons
Year	2010	2011	%Change
Jan	8225	10221	24.3
Feb	10007	10400	3.9
Mar	10257	12841	25.2
Apr	8609	14000	62.6
May	na	Na	-
Jun	8705	12679	45.7
Jul	10245	7591	-25.9
Aug	na	11893	-
Sep	na	10662	-
Oct	9571	9683	1.2
Nov	10250	10245	0.0
Dec	10913	11090	1.6

Exchange Rate	49.6	Local Currency/US$	
Date of Quote	02/17/13	MM/DD/YYYY	
Average monthly wholesale prices in Delhi			
Source: Agriculture Marketing Information Network, GOI.			

Table 12. India: Commodity, Sorghum, PSD

Sorghum India	2010/2011 Market Year Begin: Nov 2010		2011/2012 Market Year Begin: Nov 2011		2012/2013 Market Year Begin: Nov 2012	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested	7,200	7,060	7,200	6,600		7,000
Beginning Stocks	154	154	144	304		79
Production	6,740	7,000	6,800	6,100		6,700
MY Imports	0	0	0	0		0
TY Imports	0	0	0	0		0
TY Imp. from U.S.	0	0	0	0		0
Total Supply	6,894	7,154	6,944	6,404		6,779
MY Exports	50	50	50	25		50
TY Exports	50	50	50	25		50
Feed and Residual	1,300	1,400	1,300	1,300		1,400
FSI Consumption	5,400	5,400	5,500	5,000		5,200
Total Consumption	6,700	6,800	6,800	6,300		6,600
Ending Stocks	144	304	94	79		129
Total Distribution	6,894	7,154	6,944	6,404		6,779

Table 13. India: Commodity, Millet, PSD

Millet India	2010/2011 Market Year Begin: Nov 2010		2011/2012 Market Year Begin: Nov 2011		2012/2013 Market Year Begin: Nov 2012	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested	10,600	11,150	10,000	10,500		10,500
Beginning Stocks	300	300	930	970		870
Production	12,630	13,290	11,000	12,500		12,500
MY Imports	0	0	0	0		0
TY Imports	0	0	0	0		0
TY Imp. from U.S.	0	0	0	0		0
Total Supply	12,930	13,590	11,930	13,470		13,370
MY Exports	0	0	0	0		0
TY Exports	0	0	0	0		0
Feed and Residual	1,000	1,200	900	1,500		1,500
FSI Consumption	11,000	11,420	10,500	11,100		11,300

Total Consumption	12,000	12,620	11,400	12,600		12,800
Ending Stocks	930	970	530	870		570
Total Distribution	12,930	13,590	11,930	13,470		13,370

Table 14. India: Commodity, Barley, PSD

Barley India	2010/2011 Market Year Begin: Apr 2010		2011/2012 Market Year Begin: Apr 2011		2012/2013 Market Year Begin: Apr 2012	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested	740	620	750	780		770
Beginning Stocks	202	202	184	192		277
Production	1,350	1,350	1,570	1,660		1,650
MY Imports	2	2	0	0		0
TY Imports	0	0	0	0		0
TY Imp. from U.S.	0	0	0	0		0
Total Supply	1,554	1,554	1,754	1,852		1,927
MY Exports	20	12	50	25		25
TY Exports	20	26	50	25		25
Feed and Residual	150	150	200	250		300
FSI Consumption	1,200	1,200	1,300	1,300		1,400
Total Consumption	1,350	1,350	1,500	1,550		1,700
Ending Stocks	184	192	204	277		202
Total Distribution	1,554	1,554	1,754	1,852		1,927

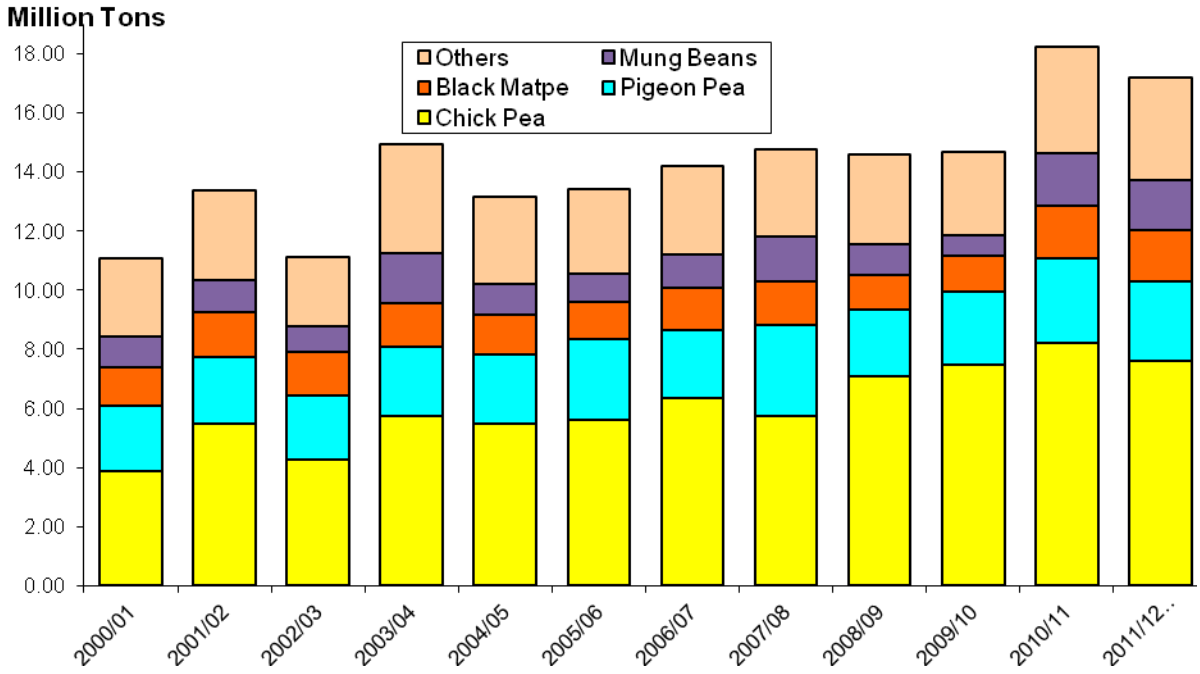
PULSES

PRODUCTION

India is the world's largest producer, consumer and importer of pulses, which are an integral part of the largely vegetarian Indian diet as one of its two major protein sources, along with dairy products. India's MY 2012/13 (Apr/Mar) pulse production is forecast lower at 17.3 million tons compared to the MY 2011/12 record production of 18.2 million tons due to lower acreage. Nevertheless, it would be the second largest pulse crop ever. Timely and sufficient 2011 monsoon rains coupled with relatively weak market prices after the MY 2011/12 record pulse harvest resulted in farmers shifting back to rice. The *kharif* season pulse production (mostly pigeon peas, mung beans, and black matpe) is tentatively estimated by the government to decline to 6.4 million tons (from 11.2 million hectares) compared to last year's record 7.1 million tons (from 12.2 million hectares). According to the preliminary official planting figures, area under *rabi* pulses (mainly chickpeas, lentils, and peas) is estimated at 14.0 million hectares, slightly lower than last year's 14.1 million hectares. While growing conditions have been

generally favorable in most growing areas, there have been some reports of crop damage due to frost in central India. Consequently, *rabi* pulse production is estimated slightly lower at 10.9 million tons, compared with 11.1 million tons last year.

Figure 6. India: Pulse Production Trend



Pulses are grown both in the *kharif* and *rabi* seasons, with nearly two-thirds produced in the latter. Most pulses are cultivated under non-irrigated conditions (84 percent) under subsistence agricultural practices, and depend largely on monsoon and winter rains for growth and productivity. Limited varietal improvements, poor seed replacement rates, low input usage and low resilience to soil moisture stress and pest infestation have contributed to low yields. Madhya Pradesh, Uttar Pradesh, Maharashtra, Andhra Pradesh, and Karnataka together account for about 70 percent of the country's pulse production, with Madhya Pradesh contributing more than 25 percent. Pulse cultivation in India has been unable to compete with less risky crops like wheat and rice, traditionally the GOI's focus crops for food security. Pulse production has not been attractive to farmers due to low government support of improved production technology and largely ineffective procurement policy vis-à-vis wheat and rice.

CONSUMPTION

Pulse consumption in MY 2012/13 is forecast to increase to 19.5 million tons due to continued strong domestic demand, sufficient domestic supplies (near record production and large carryover stocks from

MY 2011/12) and expected stronger imports. Consumption in MY 2011/12 is estimated at 18.5 million tons, including 3.0 million tons of imported pulses.

Pulses are an important component of the diets of the predominantly vegetarian Indian population. Due to increasing demand and purchasing power of Indian consumers, market prices of pulses in the last few years have been relatively high compared to other food groups (cereals, vegetable oil, vegetable, fruits, etc). The NSSO data reveal that per-capita consumption of pulses has been shrinking in the last few decades as domestic production had been lagging behind consumption, necessitating larger imports. Pulses are one of the cheapest protein sources in an average Indian's diet - one kg of any pulse can be the protein source for 3-4 meals for a family of five.

Stagnating domestic production over the last two decades has forced the government and trade to depend on imports of pulses from the global market to augment domestic supplies. However, the global availability of pulses preferred by the Indian consumers, such as pigeon peas, mung beans, black matpe, etc., is limited to a few neighboring suppliers like Myanmar. High prices of traditional pulses have forced Indian consumers to shift to imported yellow peas and dung peas (Australia) as a low-cost substitute for higher priced pulses like pigeon peas and chick peas. Yellow pea consumption is also being promoted by the government through a media campaign to popularize yellow pea *dal* (split pulses) as a pulse with 'high nutritive value.' In the last few years, government agencies have imported large quantities of yellow peas to be made available through various government distribution networks at subsidized prices.

Market Prices Firm

Prices of pulses have started firming up since September 2011 due to speculation on lower domestic production and higher cost of imports due to the depreciation in the value of Indian rupee. Prices have steadied since January with the appreciation of the value of the Indian rupee and may ease further with the arrival of the *rabi* pulse harvest. Market sources report that the government had scaled back imports of cheaper yellow peas in CY 2011. If needed, the government can revive imports of subsidized pulses for distribution through the PDS system to bring down prices. However, future price movement will depend on global prices as imports account for a significant share (20 percent) of the total market.

TRADE

India's pulse imports in MY 2010/11 fell down to 2.8 million tons compared to the previous year's record 3.75 million tons due to lower prices on sufficient domestic supplies. Pulse imports in MY 2011/12 are estimated to increase to 3.0 million tons on strong domestic demand and relatively firm domestic prices. Preliminary official trade data for the first seven months of MY 2011/12 indicates

imports of 1.7 million tons compared to 1.6 million tons during the same period last year. Imports are forecast to remain strong in MY 2012/13 provided international prices remain stable.

Table 15: India: Imports of Pulses by Type and Major Suppliers

(Quantity in thousand Metric Tons)

Type	2009/10	2010/11	Leading Suppliers
Dry Peas	1,656	1,505	Canada, USA, Australia, Russia, Ukraine
Mung Beans	706	432	Myanmar, Australia, Tanzania, Kenya, Namibia
Pigeon Peas	389	346	Myanmar, Tanzania, Mozambique, Malawi, Kenya
Lentils	288	161	Canada, USA, Australia, Russia, Brazil
Chickpeas	338	101	Australia, Tanzania, USA, Canada, Mexico
Kidney/Other Beans	85	106	China, Myanmar, Ethiopia, Peru
Other Dried Legumes	288	128	
Total	3,750	2,778	

Source: Directorate General of Commercial Intelligence, GOI.

Green peas, yellow peas, lentils and chick peas from the United States, which are typically higher-priced, have become more price-competitive in the Indian market in recent years. Imports of pulses from the United States, mostly dry green peas and some yellow peas, lentils and garbanzo beans, have grown strongly since 2005, reaching a record level of 224,250 metric tons in CY 2009, declining marginally to 215,560 million tons in CY 2010. Imports of U.S. pulses in CY 2011 declined sharply to 92,695 million tons, but India is still the third largest export market for them.

POLICY

Since the Green Revolution of the 1960's, the GOI's food grain production programs have focused on rice and wheat, with limited investment in coarse grains and pulses. Stagnating domestic production, rising imports and escalating domestic prices have forced the government to assess strategies for enhancing domestic production of pulses. Pulses were included in the government's National Food Security Mission, which aims to increase pulse production by 2 million tons by 2011/12 through the supply of quality seeds and better agronomic practices. Over the last two years, the government raised the MSP by 40 to 60 percent over MY 2009/10 levels. Additionally, the government has launched a focus program in 60,000 villages in rainfed areas for increasing pulse crop productivity and strengthening market linkages.

In a move to contain the rising prices of pulses on the domestic market, the Indian government exempted pulses from the applicable 10-percent import duty in June 2006 through March 31, 2009. This exemption has been periodically extended and is currently applicable till March 31, 2012. At the same time, the GOI also imposed a ban on the export of pulses, with the exception of garbanzos (in Hindi *Kabuli chana*), which has been periodically extended and is currently applicable till March 31,

2012. The GOI has authorized government agencies/trading companies such as National Agriculture Marketing Federation (NAFED), State Trading Corporation (STC), Project and Equipment Corporation (PEC) Ltd., and Mineral and Metal Trading Corporation (MMTC) to import pulses for sale in the domestic market, and these agencies qualify for a subsidy of up to 15 percent of the cost of import. The government is expected to extend the current export bans, imports at zero duty and subsidized imports by government agencies for another year, i.e., until March 31, 2013.

The Indian government has also disallowed futures trading in pigeon pea and mung beans until further notice under the assumption that futures contract trading is responsible for the high prices of pulses. Several state governments have imposed stocks limits on pulses held by the private trade to control the price rise.

Effective January 1, 2004, pulse (including chickpeas, peas and lentils) imports from all origins to India were subject to fumigation by methyl bromide at the port of loading apparently to protect domestic production from stem and bulb nematode, pea cyst nematode, and bruchids, per the Plant Quarantine Regulation of Import into India Order, 2003. As methyl bromide is being phased out due to environmental concerns in most countries, it is increasingly difficult and costly to fumigate pulses with methyl bromide at the port of origin in many countries. However, the GOI has allowed fumigation by methyl bromide at the port of arrival in India on an ad hoc basis, granting periodic extensions. On September 16, 2011, the GOI extended the methyl bromide fumigation on arrival arrangement for pulses coming from the United States up to March 31, 2012, which is likely to be extended further.

MARKETING

India is likely to remain a significant market for pulses in the coming years, but it is a price buyer of pulses with some resistance to high prices. Key to improving the U.S. position in the Indian pulse market is expanding the supply of yellow peas and chickpeas at competitive prices. "Price buyers" of pulses are unwilling to pay a significant premium for higher U.S. quality, especially if lower-cost pulses are plentiful from other countries. Most U.S. type beans (navy beans, black beans, pintos, and lima beans) are relatively unknown in India.

The GOI is encouraging Indian companies to explore opportunities to produce pulses overseas, either through contract farming or by purchasing/leasing land. The GOI is working with several African and South American countries to create policies which will enable this type of activity.