

USDA Foreign Agricultural Service

# GAIN Report

Global Agricultural Information Network

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## India

### Grain and Feed Annual

**2013**

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**Report Highlights:**

MY 2013/14 (April/March) wheat exports are forecast to increase to 8.0 million tons, including 5 million tons of government wheat. MY 2013/14 (October/September) rice exports are forecast lower at 7.0 million tons on relatively tight domestic supplies. India is set for a near-record wheat harvest of 92.0 million tons in MY 2013/14 (April/March) on strong planting and favorable growing conditions. Assuming a normal southwest monsoon this summer, MY 2013/14 (October/September) rice production is also forecast near-record at 102.0 million tons from 44.5 million hectares. Since 2010/11, back-to-back bumper rice and wheat harvests and strong government procurement have resulted in a significant build-up in government stocks, which is likely to increase further in 2013/14. Consequently,

the Government of India (GOI) is likely to continue to allow exports of non-basmati rice and wheat from government stocks in MY 2013/14. MY 2013/14 coarse grain production is forecast higher at 42.2 million tons on expected recovery in acreage and yields. Corn exports in MY 2013/14 are forecast lower at 2.5 million tons on expected strong domestic demand. Pulse imports in MY 2012/13 are estimated to increase to a record 4.0 million tons on continued strong domestic demand, and forecast to increase further in MY 2013/14 provided international prices and the value of Indian rupee remain stable.

**Commodities:**

Wheat

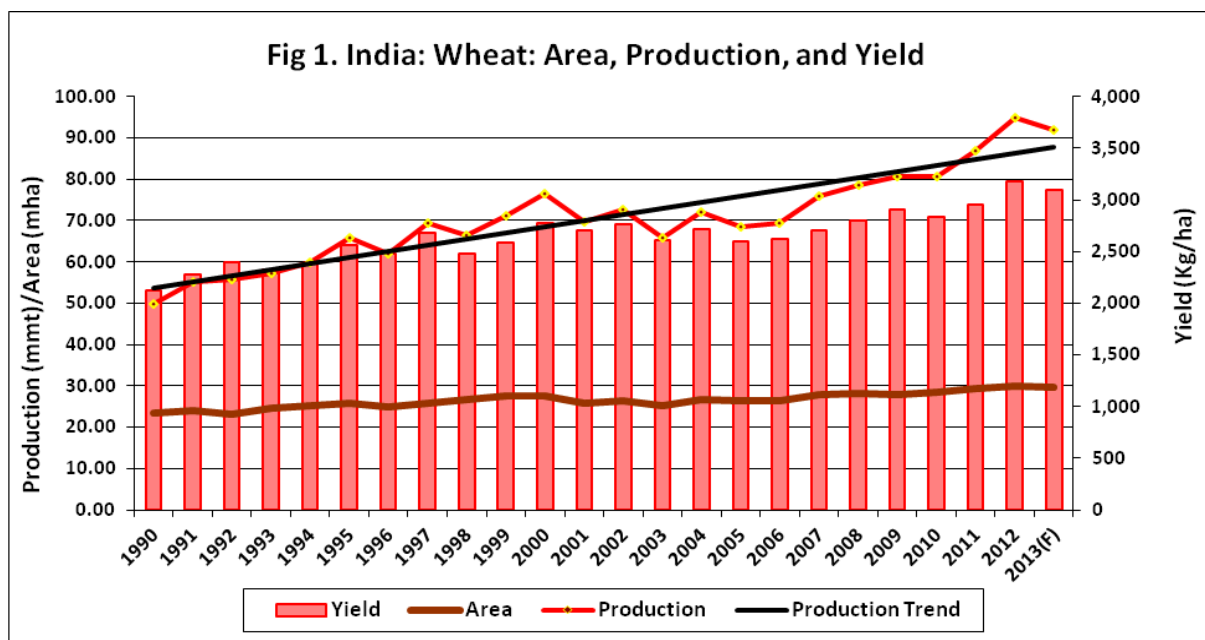
**Production:**

After five consecutive record wheat harvests (2007-2012), India appears to be heading for a near-record wheat harvest this summer on strong planting and favorable growing conditions in major wheat growing areas. Assuming normal weather conditions through harvest (April), Post forecasts marketing year (MY) 2012/13 wheat production at 92.0 million tons from 29.8 million hectares compared to last year's record 94.9 million tons from 29.9 million hectares. The government's preliminary estimate pegs 2013 production at 92.3 million tons, which is likely to be revised later.

Excellent late season (September-October) monsoon rainfall provided favorable soil moisture conditions for wheat planting in most growing areas. Despite the delayed announcement of the minimum support price (MSP) of wheat by the Government of India (GOI), the expectation of continued increase over last year's high support price provided sufficient incentive to farmers to plant wheat. The Ministry of Agriculture's latest provisional wheat area planted estimates for MY 2013/14 is 29.8 million hectares, marginally lower than last year's record area.

Although 91 percent of India's wheat crop is irrigated, winter temperatures and precipitation critically influence the yield prospects. Widespread scattered rains and low temperatures in January/early February in major growing areas have provided optimal growing conditions to the standing crop during emergence and early tillering. There have been no reports of damage due to pests or disease. However, weather from February through harvest (April) will be critical as an early rise in temperature during grain filling in March, or rains and hailstorms at harvest in April could affect the overall crop yield and quality. An unprecedented extended winter and low temperatures through the first week of April 2012 supported last year's record yield. Assuming normal weather conditions from now on, Post anticipates the MY 2013/14 wheat yield marginally lower at 3.1 tons/hectare compared to last year's record yield of 3.2 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 harder, with higher protein and gluten content compared to wheat grown in northern India. India also produces around one million tons of durum wheat, mostly in the states of Madhya Pradesh and Rajasthan. Indian durum wheat is typically 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 varieties 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 and 2013/14

India's wheat production has exceeded trend in the in the last three years on higher area and yields in response to the government's consistent increases in MSP and generally favorable growing conditions.

Further growth in wheat area is unlikely, and any future growth in production will have to come from improved productivity. Indian wheat cultivation is facing two major future threats – global warming/climate change and Ug99.

Unscientific irrigation practices and over-exploitation of ground water are increasingly causing water table depletion and soil salinity in the wheat growing areas in northern India. Depletion of irrigation water resources is likely to press wheat cultivation in north India in the next few years, forcing farmers to explore less water intensive crops like corn, pulses and oilseeds.

Most of the commonly sown wheat varieties were released more than a decade ago and are showing signs of obsolescence. The Indian Council of Agricultural Research (ICAR) 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 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. Current biotechnology applications in wheat are limited to experimental marker-assisted breeding for resistance to biotic and abiotic stresses and for quality traits.

There is a growing concern among the policy makers and researchers about the vulnerability of the wheat crop to global warming and changing climatic conditions, particularly the rise in temperatures during March/April at the grain filling stage. Of the 29 million hectares under wheat cultivation, researchers estimate that about 9-10 million hectares are prone to terminal heat stress. According to some local research, a one-degree Celsius rise in temperature during the growing season can result in a 3-to-7 percent decrease in grain yield. The Indian Council of Agricultural Research (ICAR), India's

apex agriculture research agency, along with various state agriculture universities (SAUs) is closely researching the potential climate risks to wheat to develop appropriate response mechanisms and technologies to mitigate risks.

Indian wheat also faces the threat of the dreaded wheat rust Ug99, as more than three-fourths of the wheat varieties planted in India are highly susceptible to the disease. Although Indian agricultural researchers assert that the agro-climatic conditions in the major wheat belt of northern 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. Consequently, the ICAR and the SAUs continuously survey and monitor the wheat crop for various rusts, including Ug99. ICAR is also screening newly developed wheat varieties in the country against the Ug99 stem rust. The government has been encouraging replacing the susceptible varieties with Ug99-tolerant varieties in the major wheat growing area.

### **Consumption:**

Wheat consumption (FSI) in MY 2013/14 is forecast to increase to 83.0 million tons on expected sufficient domestic production and continued higher supplies of government wheat stocks at subsidized prices to the consumers through the Public Distribution System (PDS) and local millers through Open Market Sales (OMS) program. The government is likely to launch the proposed National Food Security Act in MY 2013/14 before the upcoming national elections in 2014, which could significantly increase the supplies of food grains, including wheat, through the PDS. Wheat for feed consumption is forecast to increase to 4.0 million tons on expected strong demand from the dairy/poultry sector and supplies of damaged/inferior wheat from the large government-held wheat stocks.

Wheat (FSI) consumption in MY 2012/13 is estimated to increase by over three percent to 80.9 million tons, largely due to higher government wheat sales under the PDS and OMS programs. The government announced an additional allocation of 5.5 million tons of food grains to the state governments for distribution through the PDS, and 9.5 million tons of wheat for bulk users and private traders at subsidized prices through an open market sale program (see IN2155 and IN2089). Local millers and traders were forced to depend on government wheat supplies as the open market availability of wheat was relatively tight due to record government wheat procurement.

Wheat for feed consumption in MY 2012/13 is estimated at 3.6 million tons, an increase of over 16 percent over last year, on strong demand from the dairy and poultry sectors and higher supplies of damaged/inferior wheat from the 'abnormally large' government stocks. Market sources report that a significant portion of the lower quality wheat leaked from the PDS also finds its way into the livestock feed sector.

Wheat is the staple food for most Indians, consumed in the form of homemade *chapattis* or *rotis* (unleavened flat bread), using custom milled *atta* (whole wheat flour). Some wheat is also used for various wheat-based processed products like raised breads, biscuits and other bakery items and their share is gradually rising. With the growth in the economy and an expanding middle class, Indian households are diversifying their consumption patterns with an increasing share of high-value and high-protein items, like fruits, dairy products, meat, and processed foods. Recent National Sample Survey Organization surveys indicate that per-capita consumption of wheat at household levels has been relatively flat over the last decade (see IN2026).

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 also custom milled, mostly in the *chakkies* (small flour mills). However, branded and packaged wheat *atta* marketed by large food companies is gaining market share in urban areas due to convenience. The organized milling sector is relatively small with about 1,000 medium to large flourmills in India, with a milling capacity of 22-24 million tons, which mill mostly *maida* (flour) and semolina to cater to institutional demand, and produce bran flakes for the mixed feed industry. However, the average capacity utilization by these mills is only around 45-50 percent, processing about 10-12 million tons wheat every year. Some quantity of government-held 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 leakage from the government PDS system.

### Government Procurement and Food Subsidy Swell

Government food grain (wheat and rice) procurement has continued to rise over the last few years due a steady increase in the government's support prices and five consecutive record harvests. Government wheat procurement in MY 2012/13 shot to a record 38.2 million metric tons, a whopping 35 percent increase over last year. Near-record production and a higher MSP are likely to fuel the MY 2013/14 wheat procurement further to 40.0 million tons. The Food Corporation of India (FCI) and state procurement and storage agencies are facing a severe shortage of storage capacity, particularly in the major origination states of Punjab, Haryana, and Madhya Pradesh. With the government's current covered storage capacity estimated at around 33.6 million tons (December 31, 2012), large quantities of government wheat are kept in the open under Cover and Plinth (CAP) storage, especially during the procurement period (May-July). The government-held wheat stocks peaked to a record 50.2 million tons on June 1, 2012, precipitating an unprecedented storage crisis (previous record government-held wheat stocks was 41.03 million tons on June 1, 2002). Market sources report that about 6-7 million tons of wheat was kept in the open without even CAP storage in the months of June and July. Storage under these conditions results in significant losses due to damage from rain, temperature fluctuations, rodent/pests, and to pilferage. The food grain storage crisis is likely to escalate further in MY 2013/14 on expected higher government wheat procurement (40.0 million tons).

**Table 1. India: Government Wheat Procurement and PDS Operation**

Marketing Year	Production (Million Tons)	GOI Procurement <sup>1</sup> (Million Tons)	MSP (Rs. per ton)	GOI Total Cost (Rs. Per ton)	Off take from GOI Stocks (Million Tons)	PDS Issue Price (Rs. per ton)			Food Subsidy (Rs. Billion)
						APL	BPL	AAV	
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	584.43
2010/11	80.80	22.51 (27.8)	11,000	14,944	23.03	6,100	4,150	2,000	638.44
2011/12	86.87	28.33 (32.6)	11,700	15,953	24.27	6,100	4,150	2,000	728.23
2012/13	93.90	38.15 (40.6)	12,850	19,100	33.60 <sup>2</sup>	6,100	4,150	2,000	750.00 <sup>3</sup>
2013/14 <sup>2</sup>	92.00	40.00 (43.5)	13,500	na	na	6,100	4,150	2,000	na

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

Notes: Exchange rate Rs.53.5 = US\$ 1 on February 10, 2013

<sup>1</sup> Figure in parentheses is GOI procurement as percentage of total production

<sup>2</sup> FAS/New Delhi estimate

<sup>3</sup> GOI budget estimate, actual expected to be higher

PDS - Public Distribution System

APL - Above Poverty Line

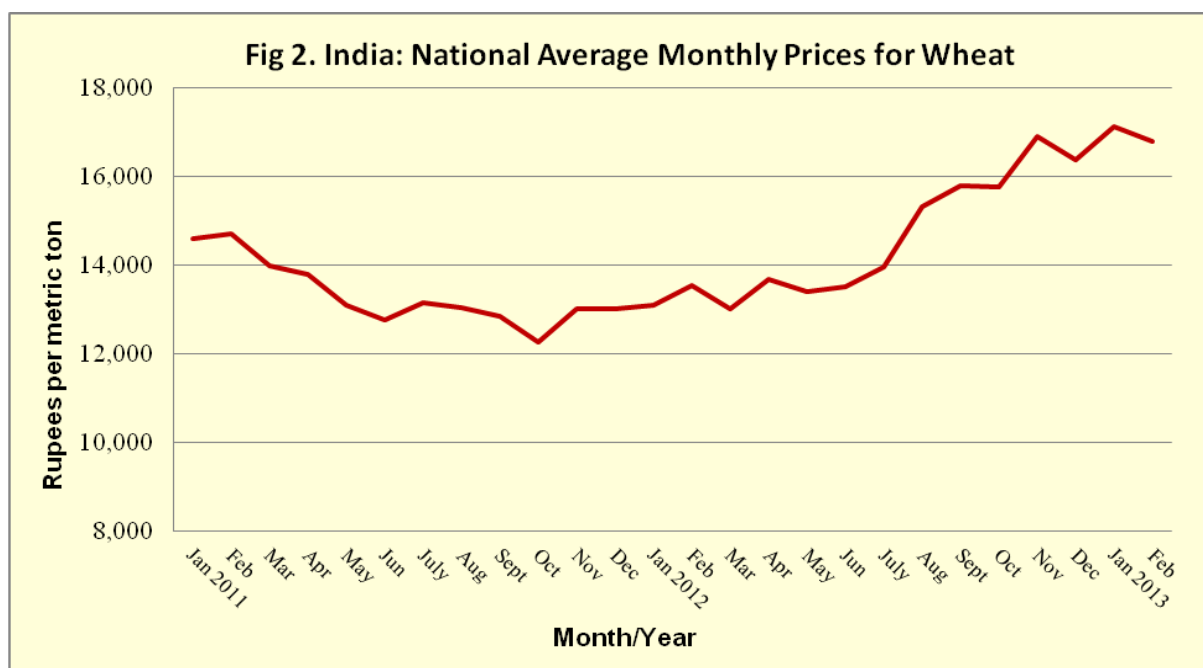
BPL - Below Poverty Line

AAJ - *Antyodaya Anna Yojana* (Poorest of the Poor)

The steady increase in the MSP coupled with increasing procurement volumes since MY 2006/07 has nearly doubled the government's cost of wheat to Rs. 19,100 (\$357) per ton in 2012/13. With the PDS sales price of wheat unchanged since 2002, the GOI's food subsidy spending is likely to balloon significantly higher than the GOI's budgeted estimate of Rs. 750 billion (\$14.0 billion) in Indian Fiscal Year (IFY) 2012/13 on higher costs (including higher MSP, storage, interest) and larger off-take of wheat under PDS, and subsidized sales under OMS and export quota (see Trade Policy Monitoring Annual IN2167).

**National Food Security Bill:** On December 22, 2011, the Indian Cabinet submitted a National Food Security Bill to the Parliament that proposes a legal entitlement to subsidized food grains for 62.5 percent of India's population, including 75 percent of rural and 50 percent of urban dwellers. The bill was referred to the parliamentary oversight committee, which has submitted its recommendations to the government. The recommendations, if accepted, will create legal entitlement for 820 million people to receive 5 kg of food grain every month at a highly subsidized price. This measure will likely raise the total food subsidy bill to over Rs. 1.02 trillion (\$19.1 billion). The bill is likely to be taken up in the budget session of the Parliament as a section of the ruling government seems to be pushing for an early implementation of the proposed law. Subsequently, the government is likely to explore a phased implementation of the act in selected states, covering the country before the next Parliamentary election, scheduled in May 2014. See GAIN Report IN1213 for more details.

## Prices



Source: Agmarket News (<http://agmarkweb.dacnet.ic.in>), Ministry of Agriculture, GOI

Despite back-to-back record wheat production and stocks, domestic wheat prices in MY 2012/13 have progressively increased due to tight open-market wheat supplies and strong export demand. Despite the expectation of another bumper crop, wheat prices in the first week of February 2013 were ranging between Rs. 14,850-19,060 (\$278-356) per metric ton in major states. Market prices during MY 2013/14 are expected to remain steady on higher MSP, government procurement and steady export off-take.

With the government procuring over 40 percent of the total production, open market availability of wheat has been relatively tight in MY 2012/13. Most open-market wheat supplies had been covered by exporters due to strong export demand on relatively strong international prices. Most local mills are covering a larger share of their wheat requirements through the government's OMS scheme. The government is currently selling wheat to local millers and processors at reserve prices ranging between Rs. 14,030-17,780 (\$262-332) per ton, which are below the open market prices in most states.

### **Trade:**

In September 2011 the export ban on wheat was removed, but Indian wheat exports took off strongly only in August 2012 after the GOI announced exports of wheat from government stocks. Wheat exports during MY 2012/13 have also been supported by relatively strong international prices. Assuming continued exports of wheat from government stocks and export price parity for Indian wheat *vis-à-vis* other origins, MY 2013/14 wheat exports are forecast to increase to 8.0 million tons, which includes 5 million tons of government wheat and 3 million tons of private exports (open-market wheat procured by private trade). Due to the forecast bumper crop and expected record government procurement, the GOI will be under tremendous pressure due to the inadequacy of warehouses/storage facilities. With current international prices significantly higher than the open market prices and OMS reserve prices in major wheat producing states (\$262-278 per ton), the government is likely to continue to liquidate additional



wheat stocks in the export market in MY 2013/14 and possibly MY 2014/15. However, any significant weakening of global wheat prices may adversely affect export prospects. If export prices fall below the OMS sale price (\$262 per ton) or MSP (\$252 per ton), accusations of subsidization of government wheat exports are likely to come from other wheat exporting countries (due to World Trade Organization commitments) as well as the local milling industry and opposition political parties.

MY 2012/13 wheat exports are estimated at 6.5 million tons as Indian wheat has been very price competitive in the international market, particularly after the government allowed exports of wheat from government stocks. Global wheat prices have firmed up significantly after the government announced the 2.0 million export quota in July 2012, which was used up by December 2012. Subsequently, the government raised the government wheat export quota by an additional 2.5 million tons for export through June 2013.

**Table 2: India: Government Wheat Tenders**

Agency	Quantity (Tons)	Tender Close	Shipment Period	Price (US\$ per ton FOB)	Port of Loading
<b>August-December 2012<sup>1</sup></b>					
Various	2,045,000	End Dec 2012	Aug 2012-Jan 2013	296.70-328.05	Various
<b>January 2013 onwards</b>					
PEC	35,000	<a href="#">Jan 3, 2012</a> <sup>2</sup>	Jan 10-Feb 10, 2013	318.0	Karaikal
PEC	100,000	<a href="#">Jan 7, 2013</a>	Jan 10-Feb 15, 2013	320.89	Krishnapatnam
STC	50,000	<a href="#">Jan 10, 2013</a>	Jan 21-Mar 5, 2013	323.05	Mundra
STC	100,000	<a href="#">Jan 10, 2013</a>	Jan 21-Mar 5, 2013	318.50	Mundra
MMTC	150,000	<a href="#">Jan 11, 2013</a>	Feb 1-Mar 5, 2013	319.45	Kakinada
MMTC	50,000	<a href="#">Jan 16, 2013</a>	Feb 2013	309.00	Pipavav
PEC	125,000	<a href="#">Jan 17, 2013</a>	Feb 1-Mar 10, 2013	314.00	Kandla
STC	40,000	<a href="#">Jan 23, 2013</a>	Feb 2013	314.00	Chennai
PEC	35,000	<a href="#">Feb 6, 2013</a>	Feb 11-Mar 10, 2013	312.00	Vizag
PEC	55,000	<a href="#">Feb 6, 2013</a>	Feb 11-Mar 10, 2013	312.10	Karaikal
STC	200,000	<a href="#">Feb 7, 2013</a>	Feb 18-Mar 30, 2013	310.21	Mundra
MMTC	35,000	<a href="#">Feb 12, 2013</a>	Feb 25-Mar 20, 2013	NA	Mormugoa
MMTC	150,000	<a href="#">Feb 14, 2013</a>	Feb 20-Mar 31, 2013	NA	Kakinada
PEC	125,000	<a href="#">Feb 18, 2013</a>	Feb 20-Mar 31, 2013	NA	Krishnapatnam
MMTC	50,000	<a href="#">Feb 20, 2013</a>	Mar 10-Apr 3, 2013	NA	Pipavav
STC	60,000	<a href="#">Feb 20, 2013</a>	Mar 1-31, 2013	NA	Chennai
STC	30,000	Feb 25, 2013	Mar 5-31, 2013	NA	New Mangalore
TOTAL	3,435,000				

Note: STC- [State Trading Corporation](#); PEC - [Project Export Corporation](#); and MMTC - [Minerals and Metal Trading Corporation](#)

<sup>1</sup> – For tender details for August-December 2012, see IN3001.

<sup>2</sup> - [Addendum 1](#), and [Addendum 2](#)

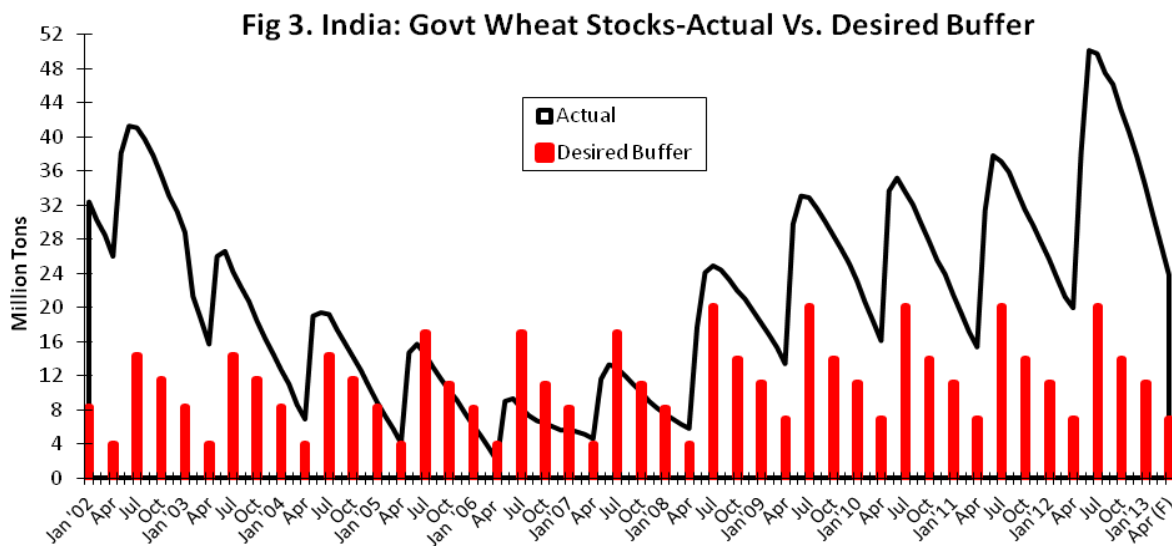
Government parastatals assigned to export wheat from government-held stocks have floated tenders for about 3.4 million tons, of which about 3.0 million tons has been allocated to various private exporters in the price ranging from \$296.70 to \$328.00 per ton FOB. Market sources report that about 2.5 million tons of government wheat has been shipped or being loaded for shipment through January 2013, and an additional 1.0 million tons is likely to be shipped during February-March 2013.

Provisional official trade statistics indicate that wheat exports for April to November 2012 reached 3.8 million tons, with the major export destinations being Bangladesh, Korea, Indonesia, U.A.E, Yemen, Thailand, Tanzania, Oman and Djibouti (see Table 5). A significant share of India's wheat exports is meant for feed use, particularly in South East Asia and the Middle East. Market sources report that April-November shipment includes 2.6 million tons of private exports and 1.2 million tons of government wheat. Due to tight open-market wheat supplies, private exports of wheat have come down significantly since November 2012, and most recent wheat exports have been from government-held stocks. In addition, wheat product shipment is estimated at around 70,000 metric tons, mostly wheat flour. At the current pace of exports, MY 2012/13 exports are estimated to reach 6.5 million tons, 3.5 million tons government wheat and 3.0 million tons private exports and wheat products.

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

### Stocks:

Despite the government's efforts to offload wheat in the domestic and export markets, government-held wheat stocks on February 1, 2013, were estimated at 30.8 million tons compared to 23.4 million tons at the same time last year.



Source: Food Corporation of India, GOI

Assuming continued strong exports and domestic off take in February/March, MY 2012/13 ending stocks are estimated at 23.8 million tons compared to 20.0 million tons for MY 2011/12 ending stocks. MY 2013/14 ending stocks are forecast lower at 20.8 million tons on expected higher off-take under the PDS as the higher total cost of government wheat will limit open market sales. However, these 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).

Estimates of privately-held wheat stocks are not available, but are expected to be minimal in parts due to risks stemming from anti-hoarding provisions of the Essential Commodities Act. The PS&D table does not include privately-held stocks.

## **Policy:**

### Research & Development:

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 aimed to increase the country's wheat, rice, and pulse production by 8, 10 and 2 million tons respectively by the end of the 11<sup>th</sup> Five Year Plan (2011/12) to ensure food security. Given that further growth in area under wheat is limited, 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. Given the success of the NFSM in meeting the 11<sup>th</sup> five year plan targets, the government is likely to continue with the program in some form in the as yet unpublished 12<sup>th</sup> Five Year Plan (2012-2017). Besides the NFSM, other targeted programs like the National Agriculture Development Program (*Rashtriya Krishi Vikas Yojana*) and Special Program to Bring the Green Revolution to Eastern India are being implemented by the GOI through the state governments.

### Price Support:

The GOI establishes a minimum support price (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. See Tables 1 and 17 for historical MSPs.

### Trade Policy:

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. On July 3, 2012, the government approved

exports of two million tons of wheat from the government-held wheat stocks (see IN2095) to bring down the government food grain stocks to manageable level. Three government parastatals were designated to undertake the exports through open tenders, and the two-million-ton quota was exhausted by December 2012. On December 26, 2013, the government approved the export of an additional 2.5 million tons of wheat from government-held stocks for shipment through June 2013 (see IN3001). Market sources report that the government export quota is likely to be exhausted before June, and the government is likely to further augment the export quota. Exports of wheat from government-held stocks are likely to continue unabated during MY 2013/14.

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 grow. In addition, market sources report steadily declining acreage under local 'hard and high-protein' wheat varieties like Sharbati and Lok-1 grown in Central India could create a shortage 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 the technical and policy levels.

### Production, Supply and Demand Data Statistics:

**Table 3. India: Commodity, Wheat, PSD**

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

Wheat India	2011/2012		2012/2013		2013/2014	
	Market Year Begin: Apr 2011		Market Year Begin: Apr 2012		Market Year Begin: Apr 2013	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested	29,400	29,400	29,690	29,860		29,820
Beginning Stocks	15,360	15,360	19,950	19,950		23,800
Production	86,870	86,870	93,900	94,880		92,000
MY Imports	17	17	10	10		0
TY Imports	17	17	10	10		0
TY Imp. from U.S.	0	0	0	0		0
Total Supply	102,247	102,247	113,860	114,840		115,800
MY Exports	891	891	6,500	6,500		8,000

TY Exports	1,699	1,699	8,500	8,500		8,000
Feed and Residual	3,100	3,100	3,600	3,600		4,000
FSI Consumption	78,306	78,306	81,810	80,940		83,000
Total Consumption	81,406	81,406	85,410	84,540		87,000
Ending Stocks	19,950	19,950	21,950	23,800		20,800
Total Distribution	102,247	102,247	113,860	114,840		115,800

**Table 4. India: Commodity, Wheat, Prices Table**

<b>Prices Table</b>			
<b>Country</b>	India		
<b>Commodity</b>	Wheat		
<b>Prices In</b>	Rupees	per uom	metric tons
<b>Year</b>	2011	2012	% Change
Jan	14611	13106	-10.3
Feb	14724	13561	-7.9
Mar	13983	13033	-6.8
Apr	13790	13699	-0.7
May	13112	13423	2.4
Jun	12762	13529	6.0
Jul	13164	13961	6.1
Aug	13049	15339	17.5
Sep	12858	15789	22.8
Oct	12274	15780	28.6
Nov	13019	16917	29.9
Dec	13036	16386	25.7
Exchange Rate	53.5	Local Currency/US\$	
Date of Quote	02/10/2013	MM/DD/YYYY	
National Average Monthly Wholesale Price of Wheat			

[Source: Agmarknet, Ministry of Agriculture, GOI.](#)

**Table 5. India: Commodity, Wheat, Export Trade Matrix**

<b>Export Trade Matrix</b>			
<b>Country</b>	INDIA		
<b>Commodity</b>	Wheat <sup>1</sup>		
<b>Time Period</b>	April-March	Units	Tons
<b>Exports for</b>	MY 2011/12		MY 2012/13 <sup>2</sup>
U.S.	165	U.S.	0
Others		Others	
Bangladesh	312633	Bangladesh	1181488
U.A.E	116074	Korea Republic	510685
Thailand	46976	Indonesia	294052
Pakistan	44192	U.A.E	281287
Oman	35489	Yemen	258808

Afghanistan	34937	Thailand	223443
Qatar	34093	Tanzania	197691
Taiwan	25198	Oman	184962
Djibouti	25000	Djibouti	169951
Sri Lanka	18262	Philippines	96171
Yemen	17077	Qatar	62882
Total for Others	709931	Total for Others	3461420
Others Not Listed	37513	Others	374223
Grand Total	747609	Grand Total	3835643

Note:

<sup>1</sup> Trade figures in the PSD includes wheat products.

<sup>2</sup> Provisional data for the period April thru November 2012

Source: Global Trade Atlas & Directorate General of Commercial Intelligence, GOI

## Commodities:

Rice, Milled

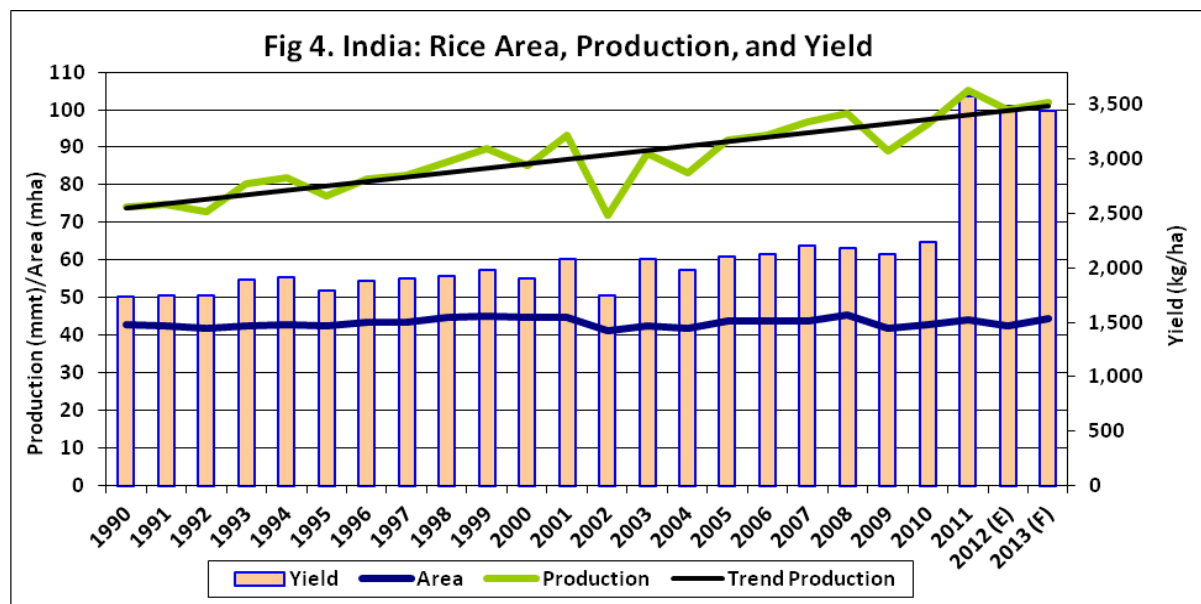
## Production:

Assuming a normal southwest monsoon this summer, India's MY 2013/14 (October/September) rice output is forecast higher at 102.0 million tons from 44.5 million hectares, marginally higher than the revised MY 2012/13 production of 100.0 million tons. Despite "delayed and erratic" 2012 monsoon rains, rice farmers realized good returns due to firm domestic paddy (unmilled) rice prices and good yields. The expectation of a further increase in the minimum support price (MSP) of paddy rice should encourage farmers to continue to plant rice in the upcoming season upon the onset of 2013 monsoon. The government's continued focus on expanding Green Revolution technology in the rice growing regions of eastern India through promotion of hybrid rice cultivation, intensification techniques and other modern production techniques support a MY 2013/14 near-record production forecast of 102.0 million tons (vs. 105.3 million tons record production in MY 2011/12). However, a timely and well distributed (over country and crop season) 2013 monsoon would be critical as a poor/erratic monsoon could bring down the crop significantly by 10-12 million tons from the forecast level.

Notwithstanding the delayed 2012 monsoon rains and dry conditions in states like Karnataka, Maharashtra, and Gujarat, the [government's recently released second advance estimate](#) placed MY 2012/13 rice production at 101.8 million tons ( 90.7 million ton *kharif* rice and 11.1 million tons *rabi* rice). Losses due to "below normal" monsoon rains could have been higher but for the good late season rains and favorable growing conditions supporting a higher *kharif* (fall/early winter harvested) rice crop in the major rice belt of north and eastern India. However, planting of *rabi* (winter) rice is currently lagging behind last year's level and some of the growing areas are facing severe soil moisture stress. Consequently, Post estimates MY 2012/13 rice production at 100 million tons (90 million tons *kharif* rice and 10 million tons *rabi* rice), slightly lower than the government estimates. Based on the final

estimate from the Ministry of Agriculture, MY 2011/12 rice production estimate is revised higher to a new record 105.3 million tons (92.75 million tons *kharif* rice and 12.6 million tons *rabi* rice).

Rice is the most important food crop of India cultivated nationwide and contributing about 40 percent of total food grain production. Rice is predominantly a rain-fed crop, 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, Odisha and Tamil Nadu. 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.



Source: Ministry of Agriculture, GOI; and FAS/New Delhi estimates for MY 2012/13 and 2013/14.

Rice production has been at or above trend since 2010/11, largely due to the significant increase in productivity. Nevertheless, Indian rice yields are below the world average, and there is wide variation in the levels of rice productivity among the major producing states in the country. 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. The government is also focusing on developing appropriate technologies to enhance rice productivity under rainfed conditions. The government is promoting a “System of Rice Intensification” technology in some rice growing states, which requires less water and chemical fertilizer. The recent productivity gains could be attributed to the government efforts in raising rice yields in the eastern region.

Many agricultural experts have expressed concerns that the current rice production techniques in India have serious environmental implications and cannot sustain projected food demand. Surplus rice growing states like Punjab, Haryana, Uttar Pradesh, and Andhra Pradesh follow intensive rice-wheat or rice-rice cropping systems, and are facing severe environmental issues, including declining water tables, deteriorating soil health and emergence of resistant disease/pests in the growing areas. Indian rice cultivation also faces the challenge of climate change as a significant share of the rice crop is produced in coastal regions, which are susceptible to a rise in the sea level. Climate change issues like glacier

melting and aberrations in the monsoon rain patterns may also potentially affect the rice crop. However, a significant cropping shift out of rice is not imminent in the near future due to the government's continued emphasis on supporting rice-wheat production through minimum support price (MSP) procurement and a lack of more profitable crop rotation alternatives.

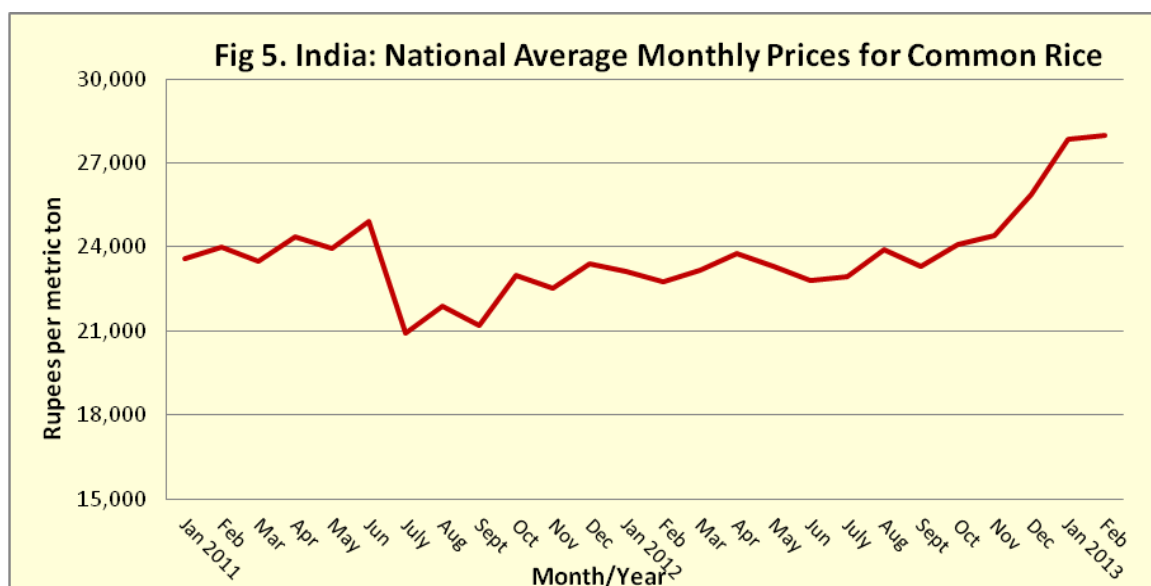
India's long-grain Basmati rice is grown mostly in Punjab, Haryana and western Uttar Pradesh, and production has been steady after the introduction of the PUSA 1121 variety, an evolved high-yielding variety. Industry sources report Basmati rice production in MY 2012/13 at 7.1 million tons from 1.7 million hectares compared to record production of 7.8 million tons from 1.9 million hectares in MY 2011/12. Basmati growers have realized good prices during the current season on strong export demand. Consequently, Basmati production in MY 2013/14 is forecast to increase to 8.0 million tons from 2.0 million hectares.

There are about 50 varieties of hybrid rice, most developed by private seed companies, of which 25-26 are popular in the market. The National Food Security Mission set a target to plant three million hectares to hybrid rice by 2011-12 in order to achieve an increase in rice production of 10 million metric tons. Despite a strong government push, area under hybrid rice is estimated at around 1.8 million hectares in 2012/13, mostly in eastern India: eastern Uttar Pradesh, Bihar, Jharkhand, and Chhattisgarh. Growth of area under hybrid rice is severely hampered by (i) the inability of the existing hybrids to cater to the vast diversity in consumer preference for rice, (ii) low incremental yields, and (iii) poor milling quality over traditional varieties. Nevertheless, several private seed companies and public sector institutions are developing improved hybrid rice varieties targeting quality and yield enhancement traits, which should accelerate hybrid rice adoption by Indian farmers. Efforts are also 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 is the major staple food for about 65 per cent of the country's population. Rice consumption in MY 2013/14 is forecast to increase by three percent to 97 million tons on expected sufficient domestic supplies and higher sales of government rice through the PDS. However, continued inflationary domestic rice prices could affect rice consumption in MY 2013/14.





Source: Agmarket News (<http://agmarkweb.dacnet.ic.in>), Ministry of Agriculture, GOI.

Relatively firm domestic prices are likely to slow down growth in consumption in MY 2012/13. Domestic rice prices in MY 2012/13 have been fueled by the significant (16 percent) hike in the MSP for paddy rice and relatively tight domestic supplies (higher government procurement and strong exports). The government is likely to announce additional rice for distribution through the PDS at subsidized prices. This will both help reduce “abnormally high” food grain stocks and somewhat counter upward pressure on prices to consumer. Consequently, rice consumption in MY 2012/13 is estimated at 94.6 million tons compared to 93.3 million tons in MY 2011/12, a modest increase compared to previous years. The NSSO surveys show that per-capita household consumption of rice has been gradually declining in recent years as consumers shift to higher value foods (see IN2026).

More than 4,000 varieties of rice are grown in India to meet the varied consumer preferences. 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). In the past, most rice under the government procurement program came through a mandatory levy on local millers. Depending on the state, local rice millers must sell the government a fixed 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 MSP of paddy rice plus milling costs. With the government’s raising the MSP significantly in recent years, local millers have reduced their purchases of paddy rice for milling and consequently levy rice supplies. Thus, the government has been procuring larger quantities of paddy rice bought at the support price, which is subsequently custom-milled by the government by the private millers at government expense for storage and distribution through PDS.

**Table 6. India: Government’s Rice Procurement and PDS Operation**

Marketing Year	Production	GOI Procurement <sup>1</sup>	MSP for Paddy (Unmilled Rice Common)	GOI Economic Cost	Off take from GOI Stocks	PDS Issue Price

			variety)					
(Oct-Sept)	(Million Tons)	(Million Tons)	Rs. per ton	Rs. Per ton	(Million Tons)	Rs. per ton		
						APL	BPL	AA Y
2005/06	91.79	27.58 (30.0)	5,700	13,397	na	7,950	5,650	2,000
2006/07	93.35	25.11 (26.9)	6,200	13,912	na	7,950	4,150	2,000
2007/08	96.69	28.74 (29.7)	7,450	15,499	na	7,950	4,150	2,000
2008/09	99.18	34.10 (34.4)	9,000	17,407	25.69	7,950	4,150	2,000
2009/10	89.09	32.03 (36.0)	10,000	18,201	28.35	7,950	4,150	2,000
2010/11	95.98	34.20 (35.6)	10,000	19,831	31.97	7,950	4,150	2,000
2011/12	104.32	35.03 (33.6)	10,800	21,229	31.44	7,950	4,150	2,000
2012/13 <sup>2</sup>	100.00	36.00 (36.0)	12,500	26,960	na	7,950	4,150	2,000
2013/14 <sup>2</sup>	102.00	na	na	na	na	7,950	4,150	2,000

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

Notes: Exchange rate Rs. 53.5 = US\$ 1 on February 10, 2013

<sup>1</sup> - Figure in parenthesis is GOI procurement as percentage of total production

<sup>2</sup> - FAS/New Delhi estimate

<sup>3</sup> - GOI budget estimate, actual expected to be higher

PDS - Public Distribution System; APL - Above Poverty Line; BPL - Below Poverty Line; and AAY - *Antyodaya Anna Yojana* (Poorest of the Poor)

The government raised the MSP for paddy rice by nearly 16 percent for the MY 2012/13 season, and set a target of 42 million tons for procurement during the MY 2012/13 season against last year's record procurement of 35.0 million tons (see Tables 6 and 17). Government rice procurement as of February 5, 2013, was estimated at 24.0 million tons compared to 22.6 million tons last year during the corresponding period. The recent increase in the open market price of rice may affect government rice procurement in coming months. Consequently, total GOI rice procurement in MY 2011/12 is expected to reach 36.0 million tons, a new record, albeit much lower than the government target. As in the case of wheat, there has been no increase in the retail price of rice distributed through the PDS since July 1, 2002, while the MSP has more than doubled in the last seven years, contributing to the GOI's growing food subsidy budget.

The livestock feed industry uses deoiled rice bran, rice waste from the milling industries, and small quantities of broken/damaged rice in the poultry and livestock feed sectors. However, there are no official or industry estimates available of feed consumption.

## Trade:

Despite increasing domestic prices, the government is unlikely to impose export controls on non-Basmati and Basmati rice in the near future on sufficient domestic supplies - bumper production, record procurement and "more-than-sufficient" government-held rice stocks. Based on the current pace of exports, MY 2012/13 rice exports are likely to reach 8.0 million tons (4.5 million tons non-Basmati and 3.5 million tons of Basmati rice). Assuming no major change in the rice export policy, India's rice exports for MY 2013/14 are forecast lower at 7.0 million (3.5 million tons of Basmati and no-Basmati ) on relatively tight domestic supplies and expected firm domestic prices. An expected increase in the

MSP for the upcoming season will likely further prop up domestic prices, and affect negatively MY 2013/14 export prospects.

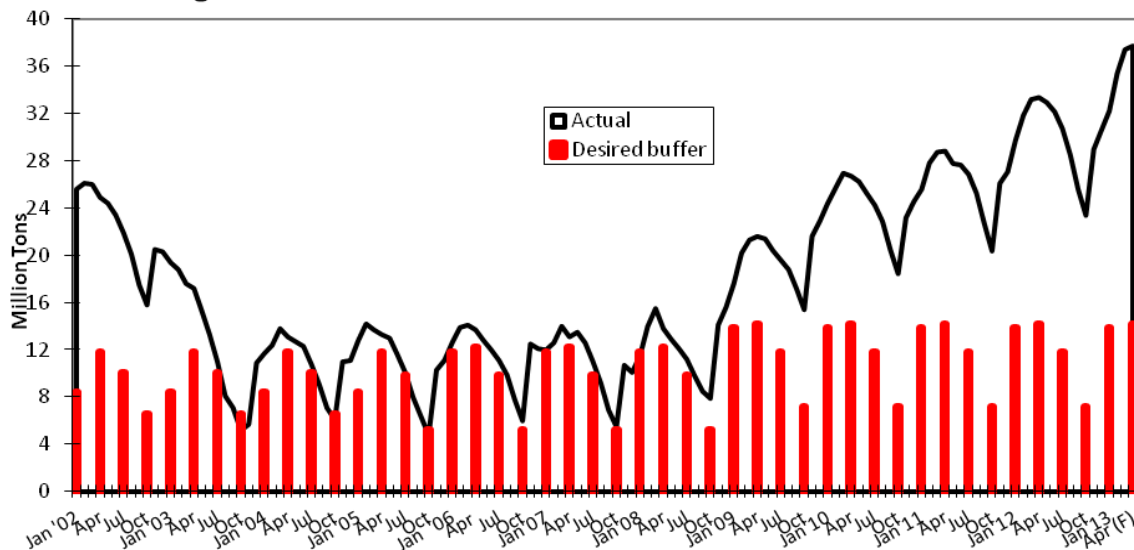
India emerged as the world’s leading exporter of rice in MY 2012/13. After the government lifted the ban on exports of non-Basmati rice in September, Indian non-Basmati rice became very competitive in the global market. Exports in CY 2012 through November were significantly higher at 9.6 million tons (see Table 9), which includes 6.5 million tons non-Basmati and 3.1 million tons Basmati. Major export destinations were Nigeria, Saudi Arabia, Senegal, Iran, Cote d’ Ivoire, UAE, and South Africa. Market sources report that most African countries have shifted to Indian non-basmati rice on competitive prices vis-à-vis other origins, particularly parboiled rice.

Based on preliminary official trade data, India’s MY 2012/13 rice exports for the first two months are estimated at 1.74 million tons compared to 1.42 million tons last year during the same period. Although official trade data are not available, market sources report that exports of non-basmati rice have slowed down since January on competition from other origins, particularly for raw rice from Pakistan, Myanmar and Thailand. See IN3001 for more information on MY 2012/13 rice exports.

**Stocks:**

Due to strong rice procurement in the ongoing MY 2012/13, government-held rice stocks on February 1, 2013, increased to 35.4 compared to 31.8 million tons at the same time last year. At the current pace of procurement and off take, government rice stocks on April 1, 2013 are estimated at 37.7 million tons, more than two and a half times the desired stocks of 14.2 million tons.

**Fig 6. India: Govt. Rice Stocks-Actual Vs. Desired Buffer**



Source: Food Corporation of India, GOI

On the expected slowdown in government rice procurement in coming months, government rice stocks on October 1, 2013 (MY 2010/11 ending stocks) are expected to decline to 21.0 million tons compared to 23.37 million tons on October 1, 2012.

There is no published information, official or industry, about privately held rice stocks. Industry sources report privately held MY 2011/12 ending stocks were around 1.7 million tons and will be slightly lower at 1.5 million tons at the end of MY 2012/13. The rice PS&D table includes both government stocks and estimated privately held stocks.

**Policy:**

**Production:**

The government’s production policy for rice is the same as for 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.

**Price/Market Support:**

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.

**Trade:**

On September 9, 2011, the government lifted the export ban on non-Basmati rice, which had been in effect since September 2007, with only ad hoc humanitarian exports exempted. Exports of Basmati rice continued without quantitative restriction throughout the period, subject to a minimum export price (MEP), which changed from time to time. On July 4, 2012, the government removed the MEP requirement on exports of Basmati rice.

In March 2008, the GOI removed the import duty on rice. The zero duty is currently effective through March 31, 2013, 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 7. India: Commodity, Rice, Milled, PSD**  
(Area in thousand hectares and quantity in thousand metric tons)

Rice, Milled	2011/2012	2012/2013	2013/2014
India	Market Year Begin:	Market Year Begin:	Market Year Begin:

	Oct 2011		Oct 2012		Oct 2013	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested	44,100	44,100	43,000	42,500		44,500
Beginning Stocks	23,500	23,500	25,100	25,100		22,500
Milled Production	104,320	105,310	99,000	100,000		102,000
Rough Production	156,496	157,981	148,515	150,015		153,015
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	127,820	128,810	124,100	125,100		124,500
MY Exports	10,376	10,376	8,000	8,000		7,000
TY Exports	10,250	10,250	7,500	7,500		7,000
Consumption and Residual	92,344	93,334	94,600	94,600		97,000
Ending Stocks	25,100	25,100	21,500	22,500		20,500
Total Distribution	127,820	128,810	124,100	125,100		124,500

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

Prices Table			
Country	India		
Commodity	Rice Milled		
Prices In	Rupees	per uom	metric tons
Year	2011	2012	%Change
Jan	23578	23105	-2.0
Feb	23998	22764	-5.1
Mar	23507	23193	-1.3
Apr	24369	23750	-2.5
May	23935	23324	-2.6
Jun	24936	22827	-8.5
Jul	20915	22940	9.7
Aug	21872	23918	9.4
Sep	21205	23305	9.9
Oct	22999	24079	4.7
Nov	22548	24406	8.2
Dec	23386	25873	10.6
Exchange Rate	53.5	Local Currency/US\$	
Date of Quote	02/10/2013	MM/DD/YYYY	
National Average Monthly Wholesale Price of Common Rice			

[Source: Agmarknet, Ministry of Agriculture, GOI.](#)

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

Export Trade Matrix			
Country	INDIA		
Commodity	Rice, Milled		

Time Period	Jan-Dec	Units	Tons
Exports for	CY 2011		CY 2012 <sup>1</sup>
U.S.	90788	U.S.	147710
Others		Others	
U.A.E	833537	Nigeria	1058788
Saudi Arabia	685078	Saudi Arabia	796239
Iran	557478	Senegal	789820
Nigeria	455682	Iran	777354
Kuwait	223158	Cote D Ivoire	666543
Bangladesh	136703	U.A.E	551146
South Africa	132166	South Africa	345357
United Kingdom	129771	Yemen	207069
Iraq	124990	United Kingdom	205129
Cote D Ivoire	123999	Guinea	234947
Yemen	116251	Kuwait	172794
Total for Others	3518813	Total for Others	5805186
Others Not Listed	1142579	Others	3651659
Grand Total	4752180	Grand Total	9604555

Note: <sup>1</sup> Provisional data for the period January thru November 2012.

Source: Global Trade Atlas & Directorate General of Commercial Intelligence, GOI

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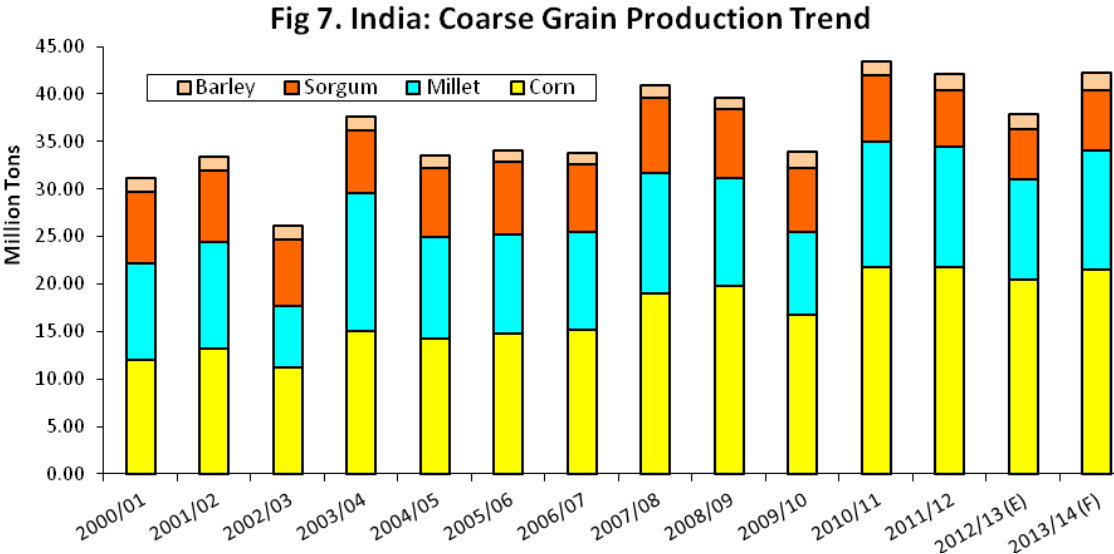
## COARSE GRAINS

### Production:

Assuming a normal 2013 monsoon and weather conditions during the growing season, MY 2013/14 coarse grain production is forecast higher at 42.2 million tons, compared to a 'below-normal' monsoon affected MY 2012/13 production of 37.9 million tons, on expected higher acreage and improved yields. If realized, it will be the second-highest coarse grain production slightly lower than the record production of 43.4 million tons in MY 2010/11. The near-record MY 201/14 coarse grain production includes a 21.5 million tons of corn, 12.5 million tons of millets, 6.4 million tons of sorghum, and 1.8 million tons of barley. Most 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 under rainfed conditions with only 15 percent of the area under irrigation. Therefore, the performance of 2013 monsoon rains, both in terms of volume and distribution across the country and period (June-September) will decide the planting and productivity of the coarse grain crops.

The delayed and uneven 2012 monsoon rains and dry conditions in the states of Maharashtra, Gujarat, and Karnataka resulted in lower planting of *kharif* coarse grains, which combined with lower yields has resulted in a significant decline in *kharif* coarse grains production. However, sufficient late 2012 monsoon rains (September/October) and relatively firm corn prices have resulted in higher planting of *rabi* corn. Consequently, Post's total coarse grain production estimate for MY 2012/13 is estimated at 37.9 million tons, which includes 20.5 million tons of corn, 10.5 million tons of millets, 5.3 million tons

of sorghum, and 1.6 million tons of barley (ICY 2011/12). The government’s second advance estimates report total coarse grain production in the Indian crop year (July-June) 2012/13 at 38.5 million tons. This estimate is subject to further revision.



Source: Ministry of Agriculture, GOI; and FAS/New Delhi estimates for MY 2012/13 and 2013/14

Corn production in India has shown a steady upward trend in recent years due to increasing area under hybrid corn, currently estimated at 60 percent and expected to grow further. Rain-fed millet and sorghum production fluctuates year to year depending on the performance of the monsoon. These crops have not experienced any major productivity enhancing technology breakthrough for decades, and are also facing increasing competition from cotton, soybeans, and pulses in major states. Production of barley, a relatively small winter crop in north India, has fluctuated from 1.4 to 1.7 million tons in the last few 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 relatively stagnant because of relatively lower yields and returns vis-à-vis wheat and *rabi* corn. 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 in MY 2013/14 is forecast to increase to 39.1 million tons compared to 35.9 million tons in MY 2011/12 on expected improved domestic production. 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. Food use accounts for a major share of consumption of sorghum, millet, and barley, while corn is increasingly being used for feed, particularly poultry feed. Some new barley varieties are being used for brewing (0.5-0.6 million tons).

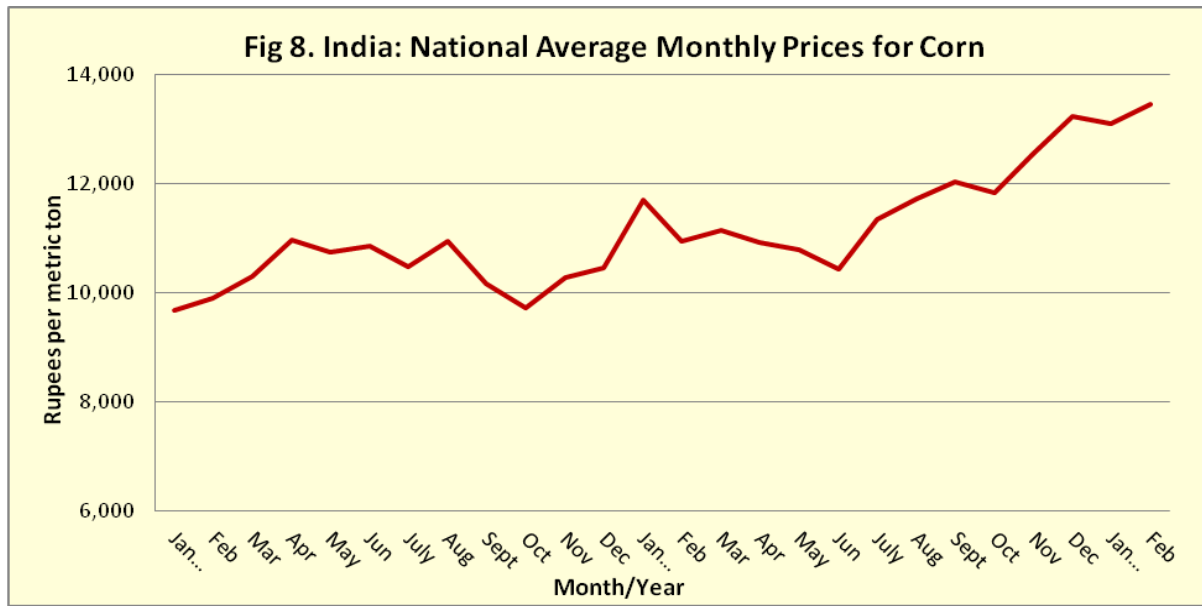
Corn ranks as the third most important grain in India after rice and wheat, because of growing demand from the animal feed (poultry) and industrial sectors (starch). More than half of the local consumption goes for feed use (9.4 million tons), primarily for poultry feed, about 1.2 million tons is consumed by the starch industry, and with the balance for food use. Corn demand from the poultry industry has recovered in MY 2012/13 and is likely to grow further in 2013/14. Corn demand for starch, mainly used by the textile industry, has been slightly depressed in MY 2012/13 due to the slowdown in textile demand. However, the recovery of the global economy is likely to increase demand for starch and hence corn consumption in MY 2013/14.

Sorghum and millet are largely used for food. Inferior quality products go for 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. 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 their byproducts.

## **Prices**

Corn prices have gained strongly in MY 2012/13 on relatively tight domestic supplies and strong domestic demand, particularly from the poultry sector.





Source: Agmarket News (<http://agmarkweb.dacnet.ic.in>), Ministry of Agriculture, GOI

Corn prices across the major markets in the first week of February 2013 ranged from Rs. 13,500 (\$252) to 13,900 (\$260) per metric ton, about 15-25 percent higher than previous-year prices during the corresponding period. Prices of other coarse grains have also been significantly higher on lower production. Sorghum prices across the major markets in the first week of February 2013 ranged from Rs. 13,750 (\$257) to Rs. 17,050 (\$319) per metric ton, about 10-20 percent higher than last year, and pearl millet prices ranged from Rs. 11,990 (\$224) to Rs. 13,850 (\$258) per metric ton, about 25-40 percent over last year.

**Trade:**

Assuming the government imposes no export restrictions, India’s corn exports in MY 2013/4 are forecast lower at 2.5 million tons on expected strong domestic demand. However, corn exports will largely depend on the price competitiveness of Indian corn in the global market, bearing in mind that Indian corn is discounted for quality vis-à-vis other origins. India exports most of its corn to southeast Asian countries like Vietnam, Indonesia, Malaysia, Taiwan, and neighboring Bangladesh.

After record corn exports in MY 2011/12, exports in MY 2012/13 are estimated lower at 2.6 million tons on relatively tight domestic supplies and weak export demand. Market sources report that Indian corn is barely competitive in the global market due to the strong surge in domestic prices coupled with the recent appreciation in the value of the Indian rupee vs. U.S. dollar. Provisional official export figures for the first two months of MY 2012/13 (October-November 2012) estimate corn shipments at about 435,000 metric tons compared to 758,000 metric tons during the corresponding period last year. Market sources report that export shipments during December-January have also been significantly lower than last year. However, export prospects are likely to improve after the harvest of *rabi* corn in March. India’s ability to ship in relatively small lots is also an important selling factor in neighboring and south Asian markets. Assuming stable global corn prices for the remaining part of the season, MY 2012/13 exports are estimated to reach 2.6 million tons, a 44 percent decrease over the last year’s record exports.

## **Policy**

### **Production:**

The GOI production policy for coarse grains is similar to that for wheat and rice, except that the focus is limited on these crops. The government's MSP procurement program and PDS distribution program for coarse grain is very limited and less effective than those for 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 in an experimental stage.

### **Trade:**

Currently, there are no restrictions on exports of corn, millet, sorghum, or 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 millet is 50 percent, and zero for barley. Imports of corn outside the TRQ are subject to a 50 percent import duty.

India's existing trade policy allows imports of corn under a tariff rate quota (TRQ) of 500,000 metric tons at zero duty. 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. The TRQ was not utilized in 2011/12 and imports under TRQ are unlikely in the coming marketing year.

The GOI's phytosanitary requirement pertaining to the limitation on weed seeds, ergot and other SPS issues, and absence of approval of biotechnology events have effectively banned U.S. coarse grain exports to India, including corn and barley. 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 approved no biotech coarse grains or byproducts for import.

## **Marketing**

India currently does not import corn or other coarse grains. However, the growth of the poultry and starch industries may eventually create demand for imported corn, while growth in the brewery industry may fuel demand for malting barley in future.

## **Production, Supply, and Demand Data Statistics:**

### **Table 10. India: Commodity, Corn, PSD**

Corn India	2011/2012		2012/2013		2013/2014	
	Market Year Begin: Nov 2011		Market Year Begin: May 2012		Market Year Begin: Nov 2013	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested	8,670	8,800	8,750	8,400		8,700
Beginning Stocks	576	576	580	588		493
Production	21,570	21,760	20,600	20,500		21,500
MY Imports	3	5	10	5		10
TY Imports	3	3	10	5		10
TY Imp. from U.S.	0	0	0	0		0
Total Supply	22,149	22,341	21,190	21,093		22,003
MY Exports	4,569	4,553	3,000	2,600		2,500
TY Exports	4,674	4,657	3,000	2,600		2,500
Feed and Residual	8,600	8,800	9,000	9,400		10,200
FSI Consumption	8,400	8,400	8,500	8,600		8,800
Total Consumption	17,000	17,200	17,500	18,000		19,000
Ending Stocks	580	588	690	493		503
Total Distribution	22,149	22,341	21,190	21,093		22,003

**Table 11. India: Commodity, Corn, Prices Table**

Prices Table			
Country	India		
Commodity	Corn		
Prices In	Rupees	per uom	metric tons
Year	2011	2012	% Change
Jan	9676	11170	15.4
Feb	9902	10952	10.6
Mar	10308	11137	8.0
Apr	10976	10928	-0.4
May	10755	10794	0.4
Jun	10856	10439	-3.8
Jul	10476	11337	8.2
Aug	10951	11728	7.1
Sep	10155	12025	18.4
Oct	9729	11826	21.6
Nov	10277	12537	22.0
Dec	10464	13244	26.6
Exchange Rate	53.5	Local Currency/US\$	
Date of Quote	02/10/13	MM/DD/YYYY	
National Average Monthly Wholesale Prices of Corn			

Source: Agmarknet, Ministry of Agriculture, GOI.

**Table 12: India: Commodity, Sorghum, PSD**

Sorghum India	2011/2012		2012/2013		2013/2014	
	Market Year Begin: Nov 2011		Market Year Begin: Nov 2012		Market Year Begin: Nov 2013	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested	6,330	6,350	6,300	6,200		6,800
Beginning Stocks	327	327	123	103		103
Production	6,030	6,010	6,000	5,300		6,400
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	6,357	6,337	6,123	5,403		6,503
MY Exports	134	134	25	0		50
TY Exports	132	131	25	0		50
Feed and Residual	1,100	1,100	1,000	800		1,100
FSI Consumption	5,000	5,000	5,000	4,500		5,000
Total Consumption	6,100	6,100	6,000	5,300		6,100
Ending Stocks	123	103	98	103		353
Total Distribution	6,357	6,337	6,123	5,403		6,503

**Table 13: India: Commodity, Millet, PSD**

Millet India	2011/2012		2012/2013		2013/2014	
	Market Year Begin: Nov 2011		Market Year Begin: May 2012		Market Year Begin: Nov 2013	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested	10,800	10,680	8,500	9,100		11,000
Beginning Stocks	990	990	790	650		250
Production	12,800	12,660	10,000	10,500		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	13,790	13,650	10,790	11,150		12,750
MY Exports	0	0	0	0		0
TY Exports	0	0	0	0		0
Feed and Residual	1,500	1,500	1,200	1,400		1,600
FSI Consumption	11,500	11,500	9,300	9,500		10,600
Total Consumption	13,000	13,000	10,500	10,900		12,200
Ending Stocks	790	650	290	250		550
Total Distribution	13,790	13,650	10,790	11,150		12,750

**Table 14: India: Commodity, Barley, PSD**

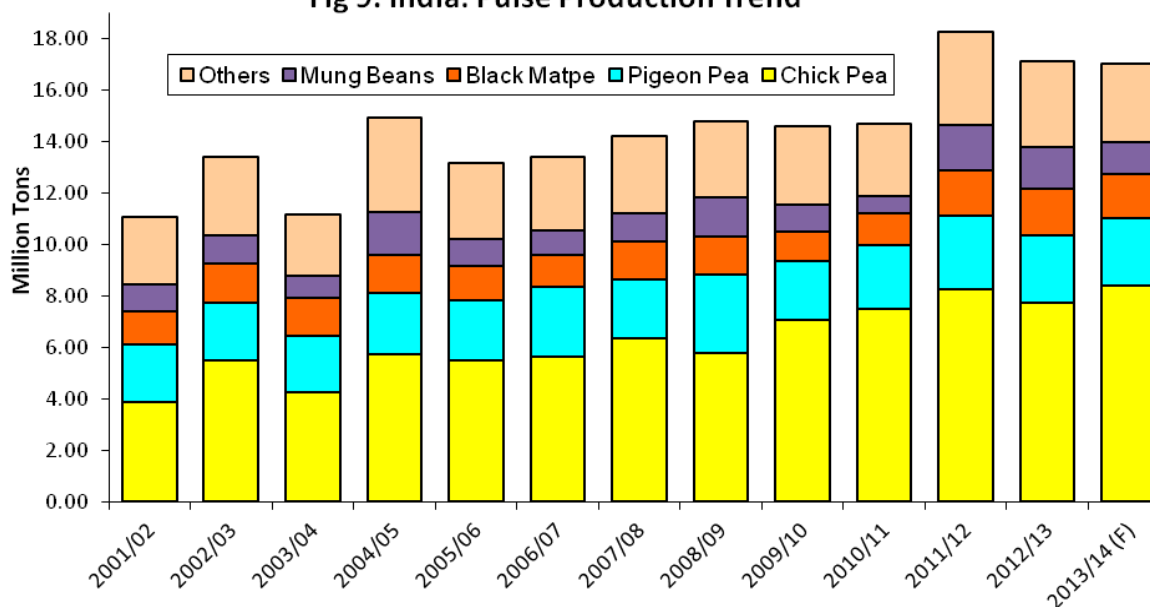
Barley India	2011/2012		2012/2013		2013/2014	
	Market Year Begin: Apr 2011		Market Year Begin: May 2012		Market Year Begin: Apr 2013	
	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested	780	780	770	780		790
Beginning Stocks	178	178	263	243		153
Production	1,660	1,660	1,610	1,620		1,800
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	1,838	1,838	1,873	1,863		1,953
MY Exports	25	45	25	60		50
TY Exports	25	38	25	60		50
Feed and Residual	250	250	280	250		300
FSI Consumption	1,300	1,300	1,400	1,400		1,450
Total Consumption	1,550	1,550	1,680	1,650		1,750
Ending Stocks	263	243	168	153		153
Total Distribution	1,838	1,838	1,873	1,863		1,953

## PULSES

### Production

India's MY 2013/14 (Apr/Mar) pulse production is forecast at 17.0 million tons, marginally lower than MY 2012/13 production of 17.1 million tons due to lower acreage. Delayed and erratic 2012 monsoon rains and subsequent dry conditions in some states affected planting of *kharif* pulses (mostly pigeon pea, mung beans, and black matpe). The government provisionally estimates *kharif* pulses to decline to 5.5 million tons from last year's 6.1 million tons in MY 2011/12, and record production of 7.1 million tons in MY 2011/12. According to the preliminary official planting figures, area under *rabi* pulses (mainly chickpeas, lentils, and peas) up to February 8, 2013, is estimated higher at 14.8 million hectares, slightly higher than last year's 14.7 million hectares. Soil moisture and weather conditions have been generally favorable in most growing areas, particularly for chickpeas. Unlike previous years, there have been no reports of crop damage due to late season rains and frost in central India. Consequently, *rabi* pulse production is estimated higher at a record 11.5 million tons compared to 11.0 million tons last year, with most increase accounted by chickpeas, forecast at a record 8.4 million tons.

**Fig 9. India: Pulse Production Trend**



Source: Ministry of Agriculture, GOI; and FAS/New Delhi estimates for MY 2013/14

India is the world's largest producer, consumer and importer of pulses as they are the major protein source in the largely vegetarian Indian diet. Pulses are grown both in the *kharif* (1/3) and *rabi* (2/3) seasons. With nearly 84 percent of pulse cultivation in rainfed conditions using subsistence agricultural practices, pulse production depends largely on the monsoon and winter rains. Limited varietal improvements, low resilience to soil moisture stress, poor pest resistance, and low input use have contributed to poor 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. The government has raised the minimum support prices (MSPs) for pulses relatively higher than for rice and wheat in the last two years (see Table 17) to encourage a production shift away from rice and wheat. However, pulse production has failed to respond to the relatively higher MSPs and open market prices due to competition from less risky crops like wheat and rice. Pulse production has not been attractive to farmers due to low government support of improved production technology and a largely ineffective procurement policy vis-à-vis wheat and rice.

## Consumption

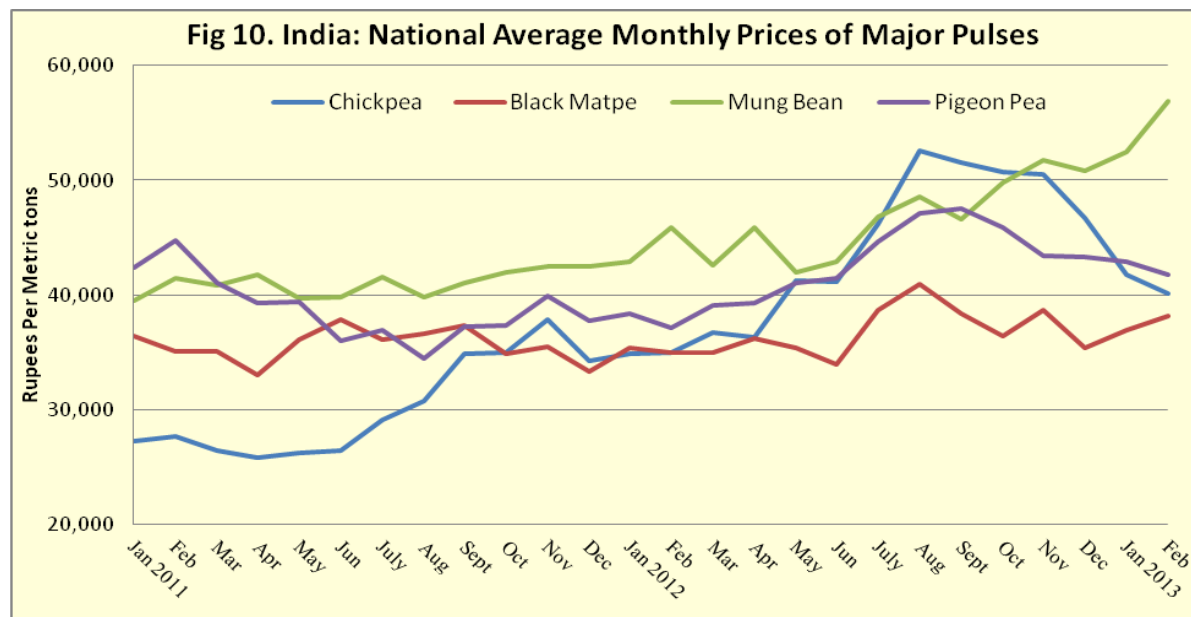
Economic growth has fueled increased pulse consumption in recent years. Consumption in MY 2013/14 is forecast higher at 21.5 million tons on continued strong domestic demand and expected stronger imports. Consumption in MY 2012/13 is estimated at 20.5 million tons, including 3.8 million tons of imported pulses.

Pulses are an important component of the diets of the predominantly vegetarian Indian population. Pulses are one of the cheapest protein sources in an average Indian's diet. One kg of any pulse costing less than \$2 can be the protein source for 3-4 meals for a family of five. Due to increasing demand and purchasing power of Indian consumers, market prices of pulses in the last few years have been relatively firm compared to cereals and vegetable oils.

Stagnating domestic production over the last two decades has forced India to augment its domestic consumption needs from the global market. However, the global availability of pulses traditionally preferred by the Indian consumers, such as pigeon peas, mung beans, black matpe, etc., are limited to a few neighboring suppliers like Myanmar and African countries. Higher prices of traditional pulses have forced Indian consumers to shift to non-traditional imported pulses like yellow peas and dung peas (Australia) as a low-cost substitute. 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. Yellow pea consumption is being promoted by the government to popularize yellow pea *dal* (split pulses) as a pulse with “high nutritive value.”

## Prices

A delayed monsoon and consequent speculation about a possible poor *kharif* pulse harvest resulted in pulse prices firming up through September. Prices have stabilized since September with the arrival of the *kharif* pulse crops and improved prospects of the *rabi* pulses due to good late season rains. Prices of mung beans have continued to gain on smaller domestic crop and strong international prices, while prices of chickpeas have declined on expectation of a record *rabi* harvest. Recent appreciation of the value of the Indian rupee and arrival of the *rabi* pulse harvest is likely to ease pulse prices further.



Source: Agmarket News (<http://agmarkweb.dacnet.ic.in>), Ministry of Agriculture, GOI.

## Trade

Strong domestic demand fueled pulse imports in MY 2011/12 to a record 3.97 million tons compared to 2.81 million tons previous year, and the previous record imports of 3.81 million tons in 2009/10. Pulse imports in MY 2012/13 are expected to increase further to 4.0 million tons on continued strong domestic demand and relatively firm domestic prices. Preliminary official trade data for the first eight months of MY 2012/13 estimates pulse imports at 2.36 million tons compared to 2.27 million tons

during the same period last year. Imports are forecast to remain strong in MY 2013/14 provided international prices and the value of Indian rupee remain stable.

**Table 15: India: Imports of Pulses by Type and Major Suppliers**  
(Quantity in thousand Metric Tons)

Type	2009/10	2010/11	2011/12	Major Suppliers
Dry Peas	1,655.6	1,504.6	2,039.4	Canada, Russia, Australia, USA, France, Ukraine
Pigeon Peas	389.3	346.1	470.8	Myanmar, Tanzania, Mozambique, China, Malawi
Mung Beans	706.2	432.0	429.4	Myanmar, China, Australia, Tanzania, Mozambique
Chickpeas	338.4	100.7	208.9	Australia, Myanmar, Tanzania, China, USA, Russia
Lentils	288.1	161.2	117.9	Canada, USA, Australia, Nepal, China
Kidney Beans	84.7	105.6	63.1	China, Myanmar, Ethiopia, USA
Other Beans	58.0	73.0	128.4	Myanmar, China, Madagascar, Brazil
Other Dried Legumes	287.7	127.7	513.9	Myanmar, Tanzania, Mozambique, China, Malawi
Total	3,808.0	2,851.0	3,971.9	

Source: Directorate General of Commercial Intelligence, GOI

India imports dry green peas, yellow peas, lentils and garbanzo beans (chickpeas) from the United States, which are typically higher-priced. Imports of pulses from the United States had grown strongly from 2005 to 2009, reaching a record level of 224,250 metric tons in CY 2009, subsequently declining to 167,209 metric tons in CY 2012. Nevertheless, India remains the second largest export market for U.S. pulses after Mexico.

## Policy

### Production:

Traditionally, the GOI's food grain production programs have focused on rice and wheat, with limited investment in 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. The government also launched a focus program in targeted 60,000 villages in unirrigated areas for increasing pulse crop productivity and strengthening market linkages.

### Market Support/Intervention:

Over the last three years, the government raised the MSP of various pulse crops by 50 to 100 percent over MY 2009/10 levels to promote pulse cultivation over rice and wheat (see Table 17). The Indian government has also disallowed futures trading in pigeon pea and mung beans until further notice under the erroneous 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 in an effort to control the price rise.

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 at subsidized prices. In October 2012, the government approved distribution of imported pulses through the PDS with a subsidy of Rs. 20 per kilogram (\$374 per ton) to the designated importing agencies. See GAIN report IN2140.

#### Trade:

In June 2006, the GOI exempted pulses from the applicable 10-percent import duty through March 31, 2009, to control prices in the domestic market. This exemption has been periodically extended and is currently applicable till March 31, 2013. At the same time, the GOI also imposed a ban on the export of pulses, with the exception of large chickpeas or garbanzos, called *Kabuli chana* in Hindi, which has been periodically extended and is currently applicable till March 31, 2013. The government is expected to extend the current export bans and imports at zero duty for another year, i.e., until March 31, 2014.

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. The GOI has granted the methyl bromide fumigation on arrival arrangement for pulses coming from the United States up to March 31, 2013, which is likely to be extended further.

#### Marketing

Due to stagnant domestic production and limited scope for increasing area under pulses, India will be a growing import market for pulses in coming years. However, India is a 'price buyer' of pulses with some resistance to the premium for higher U.S. quality products, especially when lower-cost pulses are available from other competitors. Key to improving the U.S. position in the Indian pulse market is expanding the supply of yellow peas and chickpeas at competitive prices. Most U.S. type beans (navy beans, black beans, pintos, and lima beans) are relatively unknown in India, but can be introduced if price competitive.

The GOI is encouraging Indian companies to explore opportunities to produce pulses overseas, either through contract farming or by purchasing/leasing land in several African and South American countries.

#### Statistical Tables

**Table 16: India: Production of Pulses by Type**  
(Quantity in thousand Metric Tons)

Pulse\Year	2001/02	2005/06	2009/10	2010/11	2011/12	2012/13	2013/14 (F)
Chick Pea	3.85	5.47	7.06	7.48	8.22	7.70	8.40
Pigeon Pea	2.25	2.35	2.27	2.46	2.86	2.65	2.60
Black Matpe	1.29	1.33	1.17	1.23	1.76	1.77	1.70

Mung Beans	1.03	1.06	1.04	0.69	1.80	1.63	1.25
Others	2.65	2.92	3.03	2.80	3.60	3.34	3.05
Total	11.07	13.13	14.57	14.66	18.24	17.09	17.00

Source: Ministry of Agriculture, GOI; and FAS/New Delhi estimates for MY 2013/14

**Table 17. India: Minimum Support Prices for Major Food Grains (Rs/Metric tons)**

Crop	2008/09	2009/10	2010/11	2011/12	2012/13
Rice, paddy (common)	9,000	10,000	10,000	10,800	12,500
Rice, paddy (Grade A)	9,300	10,300	10,300	11,100	12,800
Wheat	10,000	10,800	11,000	11,200	12,850
Corn	8,400	8,400	8,800	9,800	11,750
Sorghum (hybrid)	8,400	8,400	8,800	9,800	15,000
Pearl millet	8,400	8,400	8,800	9,800	11,750
Spiked millet	9,150	9,150	9,650	10,500	15,000
Barley	6,500	6,800	7,500	7,800	9,800
Chickpeas	16,000	17,300	17,600	21,000	28,000
Lentils	17,000	18,700	18,700	22,500	28,000
Pigeon peas	20,000	23,000	30,000	32,000	38,500
Mung beans	25,200	27,600	31,700	35,000	44,000
Black matpe (black gram)	25,200	25,200	29,000	33,000	43,000
Exchange Rate – Rs. /USD	45.99	47.42	45.58	51.00	53.5

Source: Department of Agriculture and Cooperation, Ministry of Agriculture, GOI