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India

Grain and Feed Annual

2015

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Report Highlights:
Marketing year (MY) 2015/16 wheat production is forecast at 94 million metric tons (MMT), marginally lower than last year's record production due to less acreage. Exports are forecast to decline to 2 MMT on uncompetitive prices and expectations of no government wheat exports. Assuming a normal 2015 monsoon (June to September), MY 2015/16 (October/September) rice production is forecast at 104 MMT (44 million hectares), marginally higher than last year. However, exports are forecast down to 8.5 MMT (4.5 MMT coarse rice and 4.0 MMT Basmati rice) on tight exportable supplies. MY 2015/16 coarse grain production is forecast higher at 41.8 MMT on expected recovery in acreage and yields. MY 2015/16 corn exports are forecast to 2 MMT on expectations of less competitive pricing compared to other major exporters.

Commodities:

Wheat

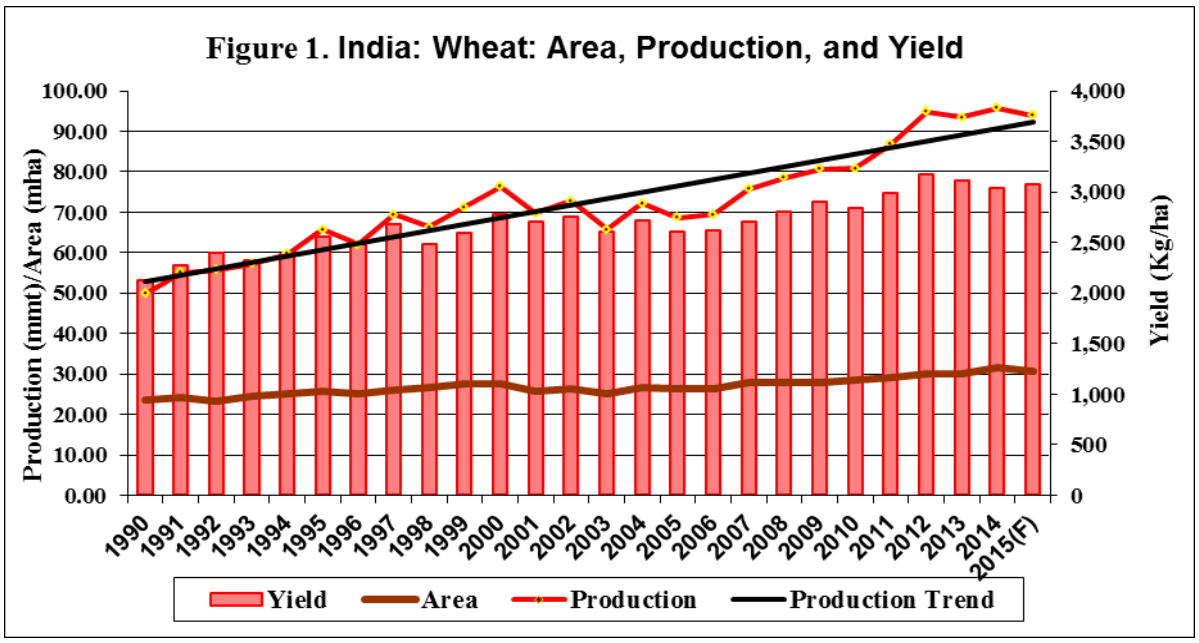
Production:

Assuming normal weather conditions, Post forecasts MY 2015/16 wheat production at 94 MMT, marginally lower than last year's record production due to less acreage. Although the Ministry of Agriculture's preliminary estimate pegged 2015 wheat production at a near record 95.8 MMT, trade sources estimate production between 92 to 95 MMT. Due to expectations of higher prices on strong consumer demand, Post estimates MY 2015/16 durum production to increase to 1.2 MMT, 200,000 tons more than last year.

Wheat grown in central and western India typically has higher protein and gluten in comparison to northern India (Indian wheat is similar to U.S. hard white wheat). Planting commenced on schedule (October to December) under ideal soil moisture and temperature conditions. Since December 2014, widespread and well distributed rains and relatively low temperatures provided optimal conditions for crop growth and early tillage. There have been no reports of any pest or disease outbreaks in major growing areas. Acreage is marginally lower due to poor monsoon rainfall (which affected some unirrigated areas in Uttar Pradesh, Rajasthan, and Gujarat) and less states offering additional bonuses to farmers (which increases profit margins).

Wheat yields across major growing states show large variations due to soil health, irrigation availability, and technology. For example, wheat yields in irrigated areas of northern India (Punjab, Haryana, and Western Uttar Pradesh) are above 4.5 tons per hectare, while yields in central and western states (Gujarat, Madhya Pradesh, Rajasthan, Uttar Pradesh, and Bihar) are relatively lower (2.4-2.8 tons per hectare).

India generally produces approximately 1.0 to 1.2 MMT of durum (mostly in the states of Madhya Pradesh, Rajasthan and Maharashtra). Most durum wheat is purchased by the private trade at premium pricing for higher value bakery and confectionary products. In the last ten years, more farmers have shifted to higher yielding non-durum varieties due to stronger profit margins.



Source: Ministry of Agriculture, GOI; and FAS/New Delhi (MY 2015/16)

Due to annual government minimum support price (MSP) increases and favorable weather, India's wheat production has remained strong since MY 2011/12. However, market sources report that irrigated wheat area with dependable water supplies may decline due to interest from urban developers and other non-agricultural businesses. Moreover, in northern India soil salinity issues (due to the over-exploitation of ground water and flood irrigation) and a declining water table may cause farmers to switch to less water intensive crops like corn, pulses and oilseeds.

Most commonly sown wheat varieties are showing signs of fatigue (the seed replacement rate is around 20 percent). The Indian Council of Agricultural Research (ICAR), India's apex agriculture research agency, and various state agricultural universities (SAUs) are involved in developing new wheat varieties with higher yield potential and better grain qualities, largely through traditional breeding methods. Given that seed production and marketing are administered by public sector institutions, the new wheat varieties have been slow to make sufficient inroads due to inadequate seed multiplication, distribution, and extension facilities. Although Indian researchers acknowledge that biotechnology can be a valuable tool for meeting India's growing food security needs, biotechnology applications for wheat are limited to experimental marker-assisted breeding in order to develop resistance to biotic and abiotic stresses.

Vulnerability of the wheat crop to changing climatic conditions, particularly the 'earlier-than-normal' rise in temperatures at the grain filling stage (March/April) continues to remain a concern among policy makers and researchers. Of the 30-31 million hectares under wheat cultivation, researchers estimate that about 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 yields. ICAR and other SAUs are developing appropriate response mechanisms (like early planting) and technologies (like short duration varieties) to mitigate potential climate risks.

Ug99, a wheat rust, may be a concern in the near future. Although agricultural scientists assert that the agro-climatic conditions in northern India's wheat belt are not conducive to Ug99, other reports suggest that 75 percent of India's total wheat acreage is susceptible to the disease. Consequently, ICAR and the SAUs continuously survey and monitor the wheat crop, and newly developed varieties, for various rusts, including Ug99. The GOI has encouraged replacing susceptible varieties with Ug99-resistant varieties.

Consumption:

MY 2014/15 and 2015/16 total consumption levels are forecast marginally higher at 93.7 and 94.5 MMT due to a growing population. However, per capita consumption is easing due an expanding middle class that is diversifying its consumption patterns by buying higher value items like fruits, dairy products, meat, and processed foods. The government is likely to continue selling wheat at subsidized prices through the public distribution system (PDS) and to local millers through the Open Market Sales Scheme (OMSS). Wheat use for feed consumption and residual is forecast at 4.5 MMT on steady demand from the dairy 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" (cookies) and other bakery items. Typically, whole wheat is distributed through the open market and public distribution system (PDS) to be subsequently custom milled by the household for home use. A lot of wheat retained by farmers (40 to 45 percent) is also custom milled, mostly in the *chakkies* (small flour mills) for home consumption; however, small quantities are also milled for feed use (mainly for lactating cows and buffaloes). Some wheat is procured by organized mills for the hotels, restaurants, and institutional (HRI) sector, and a small share is distributed as branded and packaged wheat flour and *atta*, which is slowly gaining market share in urban areas due to convenience.

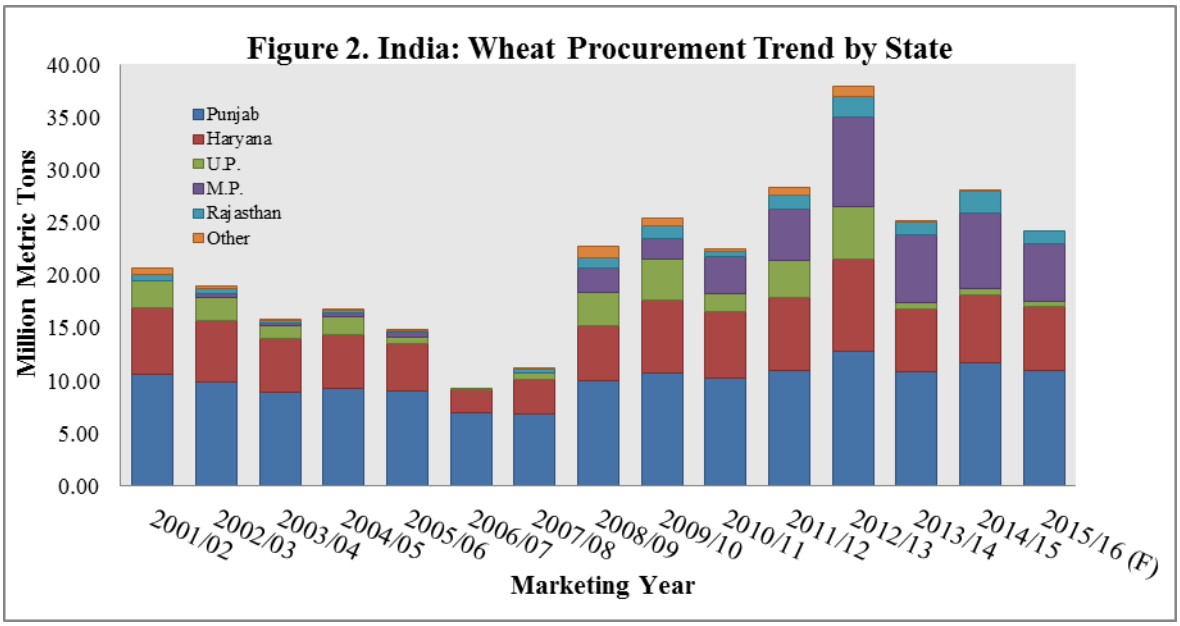
There is very limited use of wheat by the organized feed sector. Most commercial feed caters to poultry and aquaculture farms, which largely uses corn, oil meals, and other coarse grains including small quantities of spoiled/inferior quality wheat. With the average dairy herd size estimated around 2 to 3 animals per farm, feed use is typically restricted to lactating animals, and includes some oil cakes, household food waste, and other grain mixes. Some open market and government-held wheat (mostly spoiled or of inferior quality) is also used for animal feed. Market sources believe that because government held stocks are poorly managed, more government-held wheat will be diverted to animal feed when government stocks are high due to high spoilage. In MY 2014/15, expectations of lower wheat stocks may cause less wheat leakage in comparison to the previous year.

The organized milling sector is relatively small with about 1,000 medium to large flourmills in India (aggregate milling capacity of 24 to 25 MMT), which mill mostly *maida* (flour) and semolina to cater to HRI sector demand, and produce bran flakes for the mixed feed industry. However, the mills operate at approximately half capacity, and process about 12 MMT of wheat per year.

Government Procurement and Supplies for Food Programs

In MY 2013/14 and MY 2014/15, government wheat procurement was low due to relatively strong open market prices. MY 2015/16 wheat procurement is expected to ease to 24.2 MMT due to less

government incentives and more competitive pricing from other sources. A GOI advisory to the state governments discouraged offering additional bonuses to farmers (which increases profit margins), which in the last few years helped states such as Madhya Pradesh and Rajasthan (which offered an additional bonus of INR 1,000 to 1,500 per ton) incentivize farmers to sell wheat to the government procurement system.



The government's current roofed storage capacity, including leased space, is estimated at around 57 MMT, while remaining stocks (16 MMT) are under tarpaulin cover and plinth (CAP) structures. Because of lower stock levels, the GOI is likely more able to manage its stocks and prevent losses caused by rain, temperature fluctuations, rodent/pests, and pilferage.

Table 1. India: Government Wheat Procurement and PDS Operation

Marketing Year	Production	GOI Procurement[1]	MSP	GOI Total Cost	Offtake from GOI Stocks	PDS Issue Price	Food Subsidy
(Apr–	(Million	(Million	Rs.	Rs.	(Millio	Rs. per ton	Rs.

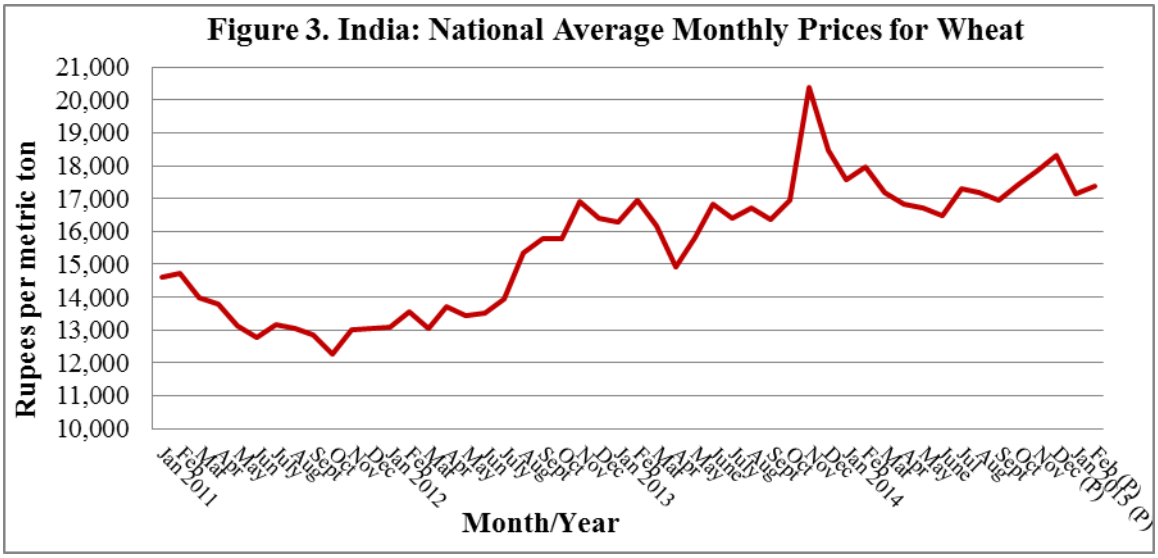
Mar)	Tons)	Tons)	per ton	Per ton	n Tons)	APL	BPL	AAY/NFSA	Billion
2005/06	68.64	14.79 (21.6)	6,400	10419	16.71	6,100	4,150	2,000	230.80
2006/07	69.35	9.23 (13.3)	7,000	11,778	11.88	6,100	4,150	2,000	240.10
2007/08	75.81	11.13 (14.6)	8,500	13,118	12.25	6,100	4,150	2,000	312.60
2008/09	78.57	22.69 (28.9)	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	28.34 (32.6)	11,700	15,953	24.27	6,100	4,150	2,000	728.23
2012/13	94.88	37.92(40.0)	12,850	17,526	33.23	6,100	4,150	2,000	850.00
2013/14	93.51	25.09(26.8)	13,500	19,083	30.61	6,100	4,150	2,000	920.003
2014/15	95.80	28.02(29.2)	14,000	20,476	26.202	6,100	4,150	2,000	1150.003
2015/16[2]	94.00	24.20(25.7)	14,500	Na	Na	6,100	4,150	2,000	Na

Sources: Ministry of Agriculture, Food Corporation of India, and GOI Budget
Notes: Exchange rate INR 62.10 = US$ 1 on February 10, 2015
[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)
NFSA-National Food Security Act

In the last ten years, cost of wheat procured under the MSP program has nearly doubled due to steady increases in procurement price (MSP) and high food grain stocks.. Since 2002 the GOI has not revised the wheat sales price under the various PDS programs. Consequently, the GOI's food subsidy spending has ballooned in the recent years.

On September 12, 2013, India enacted the National Food Security Act (NFSA) 2013 that creates an entitlement for eligible beneficiaries (50% and 75% of the urban and rural populations) to receive 5 kilograms of rice, wheat, or coarse grain (millet) at subsidized prices of INR 3, 2 and 1 per kilogram, respectively, or at least for the first three years after enactment. This equates to about two thirds of India's population, or roughly 820 million people. The commitment includes supplying about 61.4 MMT of food grain annually (See GAIN Report IN3105 for more details). While the government initially hoped to implement NFSA by end of March 2015, no states have completed the process. Market sources report that the government is likely to extend the deadline for state governments to implement the Act by the end of September 2015.

Prices

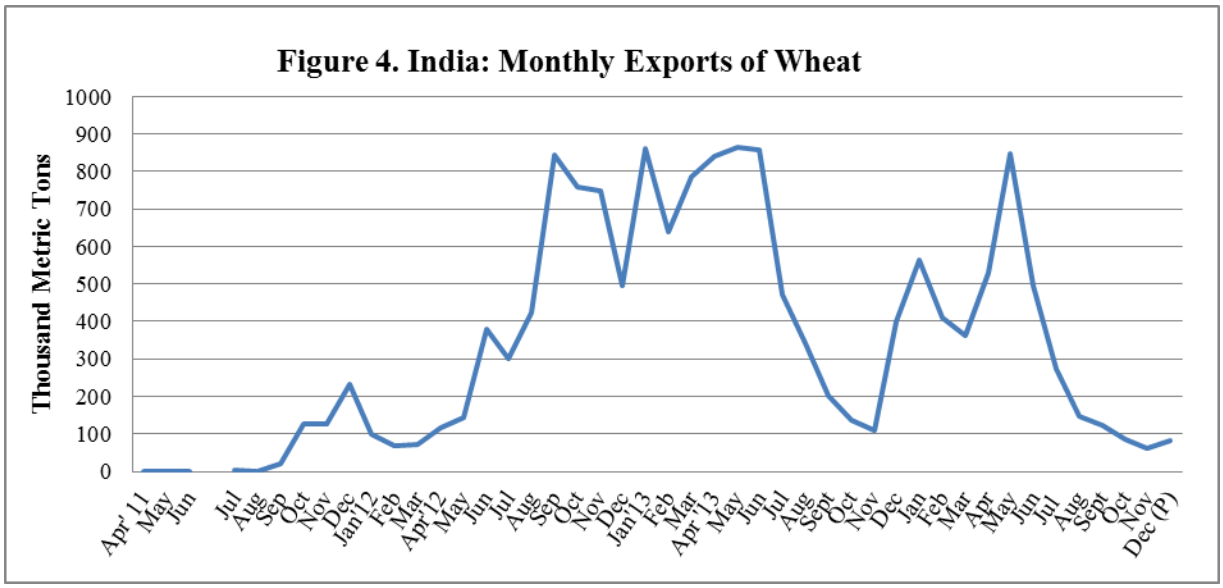


Source: Agmarket News (http://agmarkweb.dacnet.ic.in), Ministry of Agriculture, GOI

In MY 2014/15, domestic wheat prices have fluctuated in a narrow range on sufficient domestic supplies and relatively weak international prices. Spot prices in the first week of February 2015 were ranging between INR 14,550 ($234) to INR 16,500 ($266) per MT in major producing states. Expectations of strong domestic supplies and weak international prices are likely to pressure new crop domestic prices for the upcoming marketing year (April-July).

Trade:

India's MY 2015/16 wheat exports are forecast to decline to 2.0 MMT, with exports restricted to neighboring countries like Bangladesh and Nepal, and some African countries. Due to its WTO obligations, the GOI is unlikely to export government wheat except in rare circumstances such as food aid. Market sources report that Indian wheat is currently about $20-25 per MT higher than wheat from competing origins in major export destinations (Middle East, Africa and South Asia). Domestic prices are unlikely to decline significantly due to high MSPs. However, market prices may decline in the states where the government procurement system is not very effective, and be competitive for export markets.



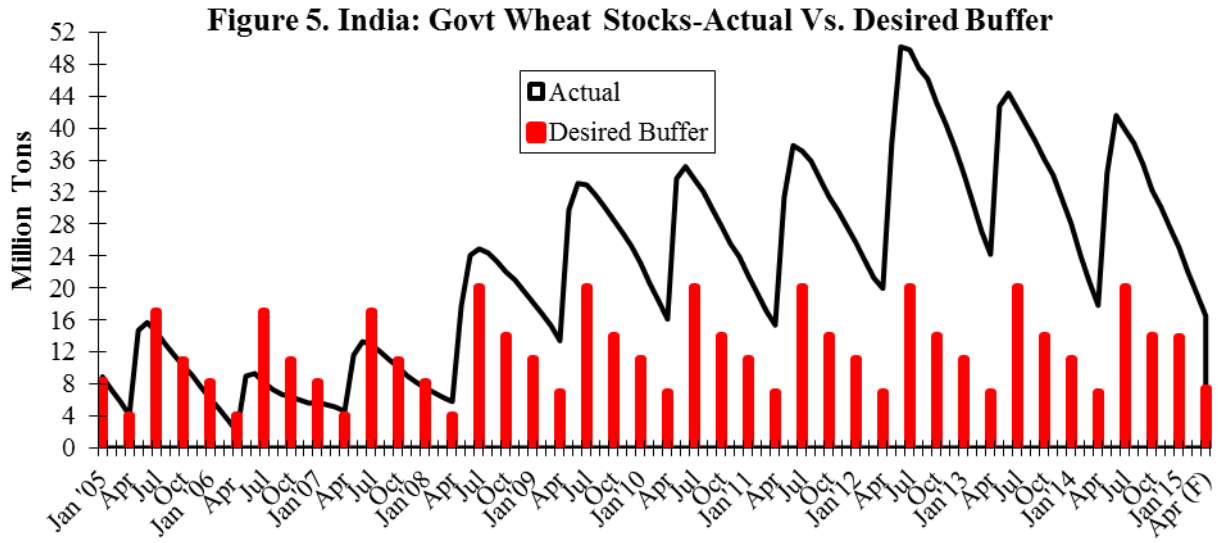
Source: DGCIS, GOI, and private sources (December estimate).

In May 2014, the GOI discontinued exports of government procured wheat in order to adhere to its World Trade Organization obligations (see IN4039). Exports of wheat sourced from the open market continues to be permitted, MY 2014/15 is estimated to decline to 3.5 MMT on less competitive prices. MY 2014/15 exports includes about 3.1 MMT wheat and 0.4 MMT wheat products (wheat equivalent). Provisional official trade statistics indicate that wheat exports for April to November 2014 reached 2.64 MMT, with major export destinations including Bangladesh, U.A.E, Indonesia, Sudan, Nepal, Yemen, and Oman (see Table 4).

Despite a zero import duty policy, imported wheat is relatively more expensive than local wheat due to shipping, clearance, and inland transport costs.

Stocks:

MY 2014/15 ending stocks are estimated at 16.5 MMT, 1.3 MMT less than last year, but still more than double minimal government-held stock requirements. The Food Corporation of India (FCI) estimates that on February 1, 2015 government-held wheat stocks were 22.0 MMT, 2.2 MMT less than last year. Estimates of privately-held wheat stocks are not available, but are expected to be minimal due to provisions in the Essential Commodities Act. The PS&D table does not include privately held stocks.



Source: Food Corporation of India, GOI

Policy:

Research & Development:

The growth of wheat production following the Green Revolution was the cornerstone of India's food security. The GOI continues to prioritize wheat and rice as the focus crops for food security. The GOI supports research, development, and extension activities for new varieties and improved production technologies (e.g., pest management). ICAR conducts wheat research and development at the national level, which is complemented by SAUs, 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.

The stagnation of food grain production (wheat and rice) in the last decade (2000) was a serious concern for the policy makers. In 2007, the government launched a National Food Security Mission (NFSM) to address food security concerns. Given that arable land is limited, the NFSM seeks to bridge the yield gap through promotion and dissemination of improved technologies, particularly in the western, central and eastern states; these technologies include: seeds, integrated nutrient management, integrated pest management, and resource conservation technologies. 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 also being implemented by the GOI through the state governments.

For more information on government fiscal support for agriculture, refer GAIN Report (IN4044)

Price Support:

The Commission for Agricultural Costs and Prices (CACP) recommends the MSP for wheat. Government-owned enterprises like the Food Corporation of India (FCI) and various state marketing agencies procure wheat at the MSP for central government stocks, and make arrangements for storage and distribution. Subsequently, the government allocates wheat for distribution through the PDS and other welfare schemes at a subsidized price. During surplus years, the government sells wheat in the open market to the private trade at market prices. The objective of the MSP is to provide remunerative prices to farmers and affordable prices to poor consumers.

In August 2014, the GOI set up a high level committee (HLC) to review FCI's activities and suggest improvements to its operational efficiency and financial management. On January 19, 2015, the HLC submitted its report to the GOI, which included recommendations to increase beneficiaries, re-orient the PDS system to target vulnerable consumers at a lower cost, and improve storage and distribution. Sources report that the Ministry of Consumer Affairs, Food, and Public Distribution is reviewing the recommendations. Some of the recommendations may require further consultations with other ministries and state governments, including parliamentary approval.

Trade Policy:

Since May 2014, the GOI has discontinued exports of government wheat. However, there are no restrictions on private exports (wheat procured from the open market) after the export ban on wheat was removed in September 2011. Wheat imports incur a zero import duty. The government lowered the duty on wheat imports to zero in September 2006 for a short period, and extended the measure indefinitely in October 2007. Indian phytosanitary requirement (i.e., a wheat sample drawn from a single consignment should not contain more than 100 quarantine seeds (31 quarantine seeds have been specified) per 200 kg) and other SPS issues have effectively barred U.S. wheat shipments to India.

Marketing:

The rapidly growing fast food industry and modernizing bakery/confectionary industry generate demand for specialty flours (used in pizzas and burger buns) that require different wheat classes that are not produced in India. In addition, despite growing demand, market sources report steadily declining acreage of locally produced 'hard and high-protein' wheat varieties like *Sharbati* and *Lok-1* (grown in central India) due to a lack of incentives and uncompetitive pricing.

Production, Supply and Demand Data Statistics:

Table 2. India: Commodity, Wheat, PSD
(Area in Thousand Hectares, Quantity in Thousand Metric Tons, Yield in MT/Hectare)

Wheat	2013/2014		2014/2015		2015/2016	
Market Begin Year	Apr 2013		Apr 2014		Apr 2015	
India	USDA	New Post	USDA	New Post	USDA	New Post

	Official		Official		Official	
Area Harvested	30,000	30,000	30,600	31,525	0	30,600
Beginning Stocks	24,200	24,200	17,830	17,830	0	16,500
Production	93,510	93,510	95,910	95,850	0	94,000
MY Imports	25	25	45	45	0	50
TY Imports	22	22	45	45	0	50
TY Imp. from U.S.	0	0	0	0	0	0
Total Supply	117,735	117,735	113,785	113,725	0	110,550
MY Exports	5,899	6,053	3,500	3,500	0	2,000
TY Exports	5,354	5,399	2,200	2,200	0	2,000
Feed and Residual	4,800	4,800	4,500	4,500	0	4,500
FSI Consumption	89,206	89,052	89,485	89,225	0	90,000
Total Consumption	94,006	93,852	93,985	93,725	0	94,500
Ending Stocks	17,830	17,830	16,300	16,500	0	14,050
Total Distribution	117,735	117,735	113,785	113,725	0	110,550
Yield	3.1170	3.1170	3.1343	3.0404	0.0000	3.0719

Table 3. India: Commodity, Wheat, Prices Table

Prices In	**Rupees**	**per uom**	**metric tons**	
Year	2012	2013	2014	%Change
Jan	13,106	16,279	17,582	8.0
Feb	13,561	16,953	17,961	5.9
Mar	13,033	16,171	17,170	6.2
Apr	13,699	14,925	16,838	12.8
May	13,423	15,822	16,714	5.6
Jun	13,529	16,816	16,481	-2.0
Jul	13,961	16,391	17,301	5.5
Aug	15,339	16,698	17,186	2.9
Sep	15,789	16,351	16,938	3.6
Oct	15,780	16,936	17,425	2.9
Nov	16,924	20,365	17,839	-12.4
Dec	16,397	18,468	18,309	-0.9
Exchange Rate	62.10	Local Currency/US$		
Date of Quote	02/11/2015	MM/DD/YYYY		

National Average Monthly Wholesale Price of Wheat
Source: Agmarket News (http://agmarkweb.dacnet.ic.in), Ministry of Agriculture, GOI

Table 4. India: Commodity, Wheat[1], Export Trade Matrix

Time Period	April-March	**Units**	Tons
Exports for	MY 2013/14		MY 2014/15[2]
U.S.	149	U.S.	48
Others		**Others**	
Bangladesh	1,974,308	Bangladesh	913,056
Korea RP	754,729	UAE	357,631
UAE	664,870	Indonesia	347,852
Indonesia	325,508	Sudan	112,025
Yemen	303,041	Nepal	105,606
Djibouti	300,939	Yemen	104,381
Oman	179,372	Oman	103,192
Saudi Arabia	138,744	Malaysia	78,813
Afghanistan	114,738	Philippines	78,351
Philippines	103,894	Korea RP	66,405
Malaysia	89,347	Vietnam	55,672
Thailand	85,793	Qatar	38,001
Total for Others	**5,035,283**	**Total for Others**	**2,360,985**
Others not Listed	516,059	Others not Listed	277,631
Grand Total	**5,551,491**	**Grand Total**	**2,638,664**

[1] Trade figures in the PSD includes wheat products
[2] Provisional data for the period April through November 2014
Source: Global Trade Atlas and Directorate General of Commercial Intelligence and Statistics (DGCIS), GOI

Commodities:

Rice, Milled

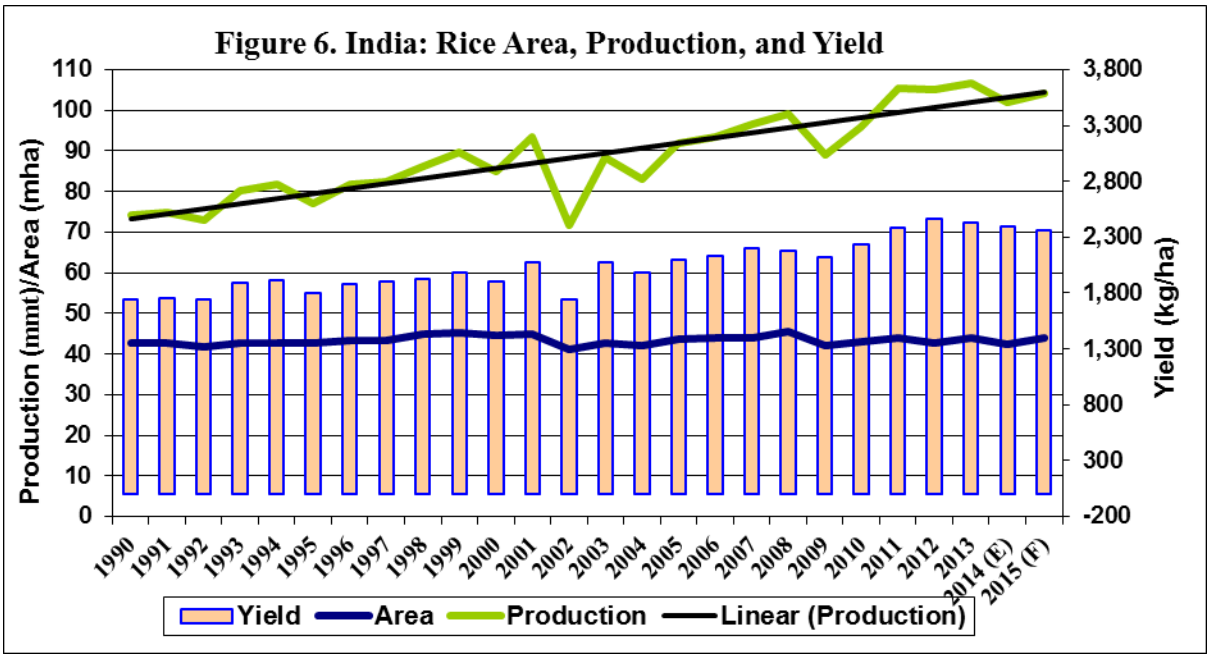
Production:

Assuming a normal 2015 monsoon (June to September), MY 2015/16 (October/September) rice production is forecast at 104 MMT (44 million hectares), marginally higher than last year. In MY 2014/15, higher production costs and relatively weak domestic prices (Figure 7) created low profit margins. Nevertheless, Post expects that farmers will continue to plant rice due to expectations of prices increases in the government's MSP. Other crops are not sufficiently supported by the government's grain procurement program. Because 40 percent of the rice crop is unirrigated and depends on a good monsoon, a poor and erratic monsoon in 2015 could potentially bring down production by 10 to 12 MMT from the forecast level, while adequate and well distributed rains may further augment forecast production by 2 to 3 MMT.

MY 2014/15 rice production is estimated at 102 MMT (42.5 million hectares) on lower yields of *kharif* (fall planted) rice and less acreage of *rabi* (winter planted) rice. Despite higher *kharif* rice acreage, delayed plantings and erratic monsoon rains from June to August 2014 negatively affected yields in unirrigated areas. Relatively lower water levels due to below normal monsoon rains, coupled with relatively weak domestic prices, have affected planting prospects for the upcoming *rabi* rice crop. Latest official planting figures for the *rabi* season crops are significantly lower than last year (1.5 million hectares compared to 1.8 million hectares). Consequently, Post continues to estimate MY 2014/15 rice production and area at 102 MMT (*kharif* 89.5 MMT and *rabi* 13 MMT) and 42.5 million hectares (*kharif* 38.2 million hectares and *rabi* 4.3 million hectares). The government's 2nd Advance Estimate places MY 2014/15 rice production marginally higher at 103 MMT, largely on higher *rabi* rice production, but these estimates are subject to future revisions.

India's long-grain Indian Basmati rice is traditionally grown in Punjab, Haryana and western Uttar Pradesh. For MY 2014/15, Basmati rice production is estimated at 8.8 MMT (2.0 million hecatares), up 1.2 MMT from last year. MY 2015/16 is forecast to increase further to 9.5 MMT. Despite relatively lower Basmati prices, farmers are expected to expand area using the PUSA 1509 variety as net returns have reportedly been considerably better than other Basmati and coarse rice varieties.

Rice is the most important food crop in India, contributing more than 40 percent of total food grain production. Although about 60 percent of the rice area is irrigated, rice is predominantly a rainfed *kharif* season crop with most of the planting closely riding on the onset and progress of the south-west monsoon rains during June through August. However, a small *rabi* crop taken is grown in the states of West Bengal, Andhra Pradesh, Odisha and Tamil Nadu.



Source: Ministry of Agriculture, GOI; and FAS/New Delhi (MY 2014/15 and 2015/16).

Although India's rice production shows a steady upward trend, production is subject to wider year-on-year fluctuations compared to wheat as the crop is highly dependent on monsoon rains. Expert reports that due to the intensive water and labor use in rice cultivation and diversion of agricultural land for non-agricultural use, rice cultivation area has hit a plateau (around 44 million hectares).

India's overall rice yields are well below the world average, and there are wide variations in rice productivity among the various producing states in the country. Consequently, there is scope for increasing productivity by expanding irrigation facilities and adopting technology. In 2010/11, the GOI launched an initiative to bring the Green Revolution to eastern India by promoting the Green Revolution and other improved technologies to the eastern region of the country (e.g., Bihar, Chhattisgarh, Jharkhand, eastern Uttar Pradesh, West Bengal, and Odisha). The eastern states have realized significant productivity gains in the last few years. The GOI also promotes a "System of Rice Intensification" technology in some rice growing states, which requires less water and chemical fertilizer, but the adoption of this system is relatively slow as it is highly labor intensive.

Agricultural policy makers and experts are increasingly concerned about meeting projected food demand after 2020. Surplus rice growing states like Punjab, Haryana, Uttar Pradesh, Andhra Pradesh and West Bengal, Orissa and other eastern states 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. Some state governments are promoting crop diversification to lower water intensive crops like corn, and other horticultural crops, but the higher yield and price variations in these crops discourages farmers to shift out of rice. 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 for food security and a lack of more profitable and lower risk crop rotation alternatives.

Indian rice cultivation also faces the challenge of global warming and climate change. A significant share of the rice crop is produced in the 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 in the mainland.

Hybrid Rice: There are about 50 varieties of hybrid rice, most developed by private seed companies, of which about 25 are popular in the market. Most of the hybrid rice is cultivated in eastern India (e.g., eastern Uttar Pradesh, Bihar, Jharkhand, and Chhattisgarh). The National Food Security Mission set a target to plant three million hectares to hybrid rice by 2011-12. Despite sustained government efforts, area under hybrid rice is estimated at 1.8 million hectares in 2014/15, largely unchanged over the last three years. Growth of area under hybrid rice is severely hampered by (i) the inability to cater to different consumer quality preferences, (ii) low incremental yield realization, and (iii) poor milling quality over traditional varieties. Nevertheless, several private seed companies and public sector institutions are developing improved hybrid rice varieties that have higher quality and yields, which may accelerate hybrid rice adoption in the future.

Biotechnology: Efforts are also underway, mostly in the private sector, to develop transgenic rice varieties to incorporate resistance to various pests, diseases, and abiotic stresses. However, approvals and commercialization of transgenic rice are still years away. Several public sector rice research organizations are doing work on marker assisted breeding of rice for resistance to biotic and abiotic stresses and incorporating quality traits.

Consumption:

Rice consumption in MY 2015/16 is forecast at 99.5 MMT, marginally higher than the MY 2014/15 consumption of 99.2 MMT, on forecast sufficient domestic supplies and stagnant per capita consumption. Rice is the major staple food for more than 70 percent of the Indian population. More than 4,000 varieties of rice are grown throughout the country to meet varied consumer preferences. The latest National Sample Survey for the Indian fiscal year 2011/12 (April/March) shows a steady decline in the per capita consumption of rice in the last few years. With the growing economy and expanding Indian middle class, Indian consumers are increasingly diversifying their diet to include higher value and nutritious food instead of the basic fillers like rice and wheat.

Table 6. India: Per Capita Consumption of Rice and Its Products for 30 days Period (In Kilogram)

Category	IFY 2004/05	IFY 2009/10	IFY 2011/12
Rural	6.38	6.00	5.98
Urban	4.71	4.52	4.59

Source: National Sample Survey - Household Consumption of Good and Services in India, 2011/12.

Government Procurement and Supplies for Food Programs

Rice is one of the most important food grains for the government's PDS and other food security programs. 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 to the government a fixed portion of their milled rice at pre-established rates, called the "levy price," which are 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. In the recent years, the government has been largely procuring paddy rice bought at the support price, which is subsequently custom-milled for the government by private millers at the government expense for storage and distribution through the PDS.

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

Marketing Year	Production	GOI Procurement[1]	MSP for Paddy (Unmilled Rice Common variety)	GOI Economic Cost	Offtake from GOI Stocks	PDS Issue Price		
(Oct-Sept)	(Million Tons)	(Million Tons)	Rs. per ton	Rs. Per ton	(Million Tons)	Rs. per ton		
						APL	BPL	AAY/NFSA
2005/06	91.79	27.58 (30.0)	5,700	13,036	na	7,950	5,650	3,000
2006/07	93.35	25.11 (26.9)	6,200	13,912	na	7,950	4,150	3,000
2007/08	96.69	28.74 (29.7)	7,450	15,499	na	7,950	4,150	3,000
2008/09	99.18	34.10 (34.4)	9,000	17,407	25.69	7,950	4,150	3,000
2009/10	89.09	32.03 (36.0)	10,000	18,201	28.35	7,950	4,150	3,000
2010/11	95.98	34.20 (35.6)	10,000	19,831	31.97	7,950	4,150	3,000
2011/12	105.30	35.04 (33.3)	10,800	21,229	31.44	7,950	4,150	3,000
2012/13	105.24	34.04 (32.3)	12,500	23,049	31.39	7,950	4,150	3,000
2013/14	106.54	31.84 (29.9)	13,100	26,155	30.65	7,950	4,150	3,000
2014/15[2]	102.00	30.00(29.4)	13,600	28,179	na	7,950	4,150	3,000
2015/16[2]	104.00	na	na	na	na	7,950	4,150	3,000

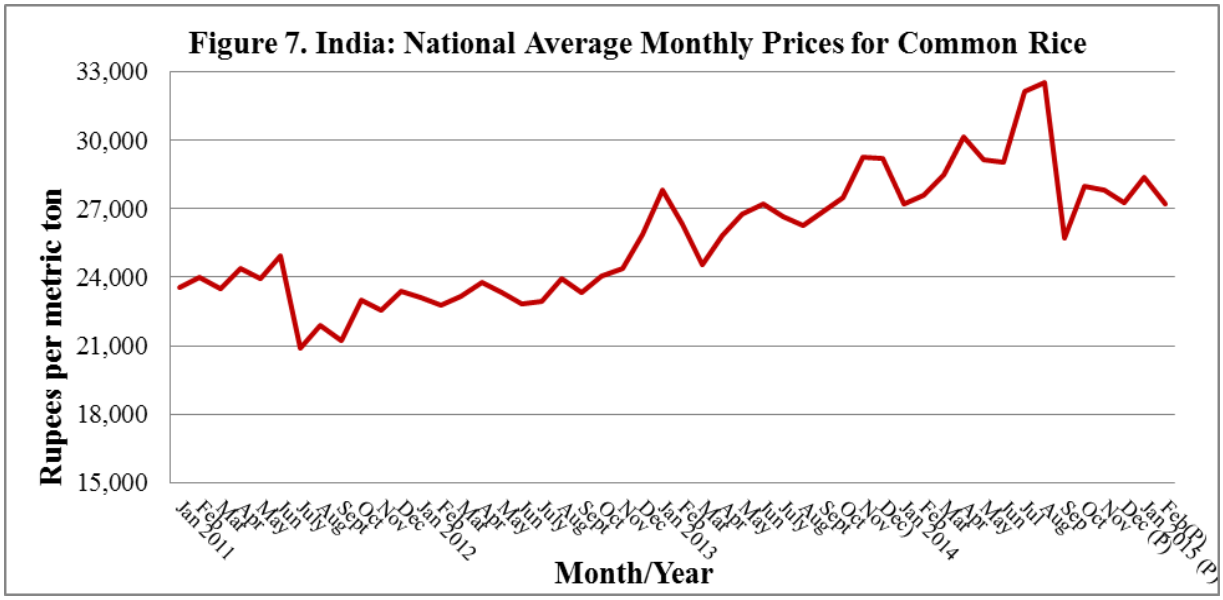
Source: Ministry of Agriculture and Food Corporation of India, GOI
Notes: Exchange rate INR 62.1 = US$ 1 on February 10, 2015
[1]- Figure in parentheses is GOI procurement as percentage of total production
[2] - FAS/New Delhi estimate
PDS - Public Distribution System; APL - Above Poverty Line; BPL - Below Poverty Line; and

AAY -*Antyodaya Anna Yojana* (Poorest of the Poor); NFSA-National Food Security Act

Due to a modest increase in the MSP over last year, in MY 2014/15 government rice procurement has been slow. On February 2, 2015, official sources estimate rice procurement at 19.8 MMT (21.34 MMT last year). Lower open market pricing may support government rice procurement in the coming months. In MY 2014/15, overall rice procurement is likely to be lower than last year, currently estimated at 30 MMT. Despite estimated lower procurement, stocks are sufficient to meet the GOI's estimated annual requirement under the PDS and other feeding programs (31 to 32 MMT) in IFY 2014/15. 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 over the last decade.

The livestock feed industry uses deoiled rice bran and broken rice. Small quantities of inferior quality and damaged rice also get used as fillers in the poultry and livestock feed sectors. However, there are no official or industry estimates available for rice feed consumption.

Prices

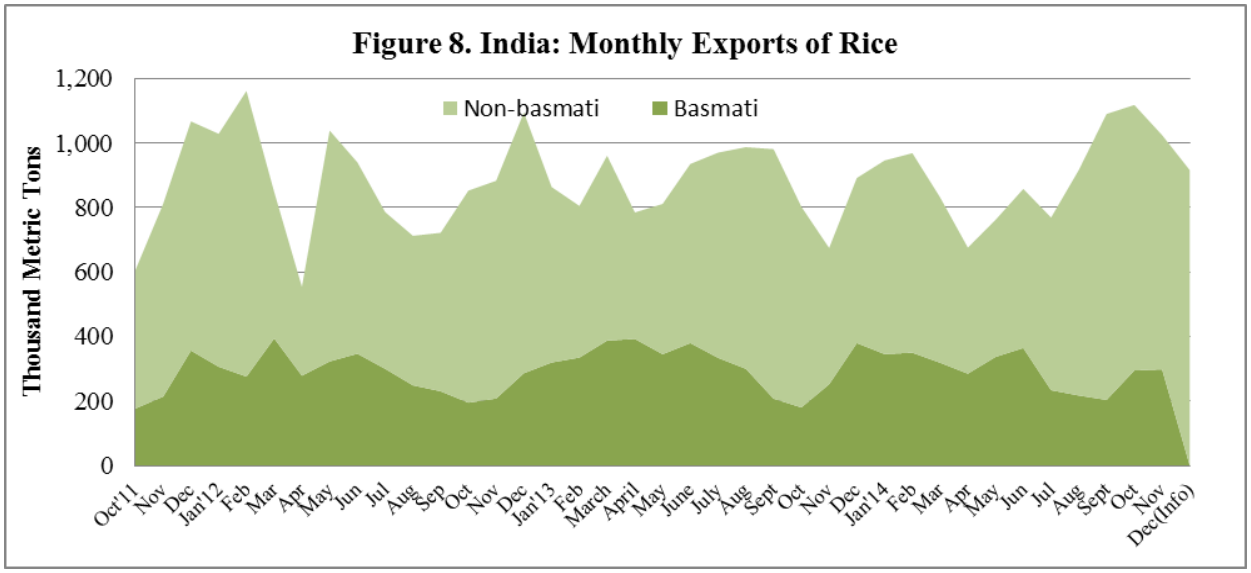


Source: Agmarket News (http://agmarkweb.dacnet.ic.in), Ministry of Agriculture, GOI.

At the beginning of MY 2014/15, domestic rice prices eased on sufficient domestic supplies and relatively weak international prices. Market prices are expected to remain steady on relatively strong domestic supplies.

Trade:

After the export ban on non-Basmati coarse rice was removed in September 2011, India has emerged as one of the world's leading rice exporters. For MY 2015/16, India's rice exports are forecast down to 8.5 MMT (4.5 MMT coarse rice and 4.0 MMT Basmati rice) on relatively tight exportable supplies.



Source: DGCIS, GOI, and private sources (December estimate).

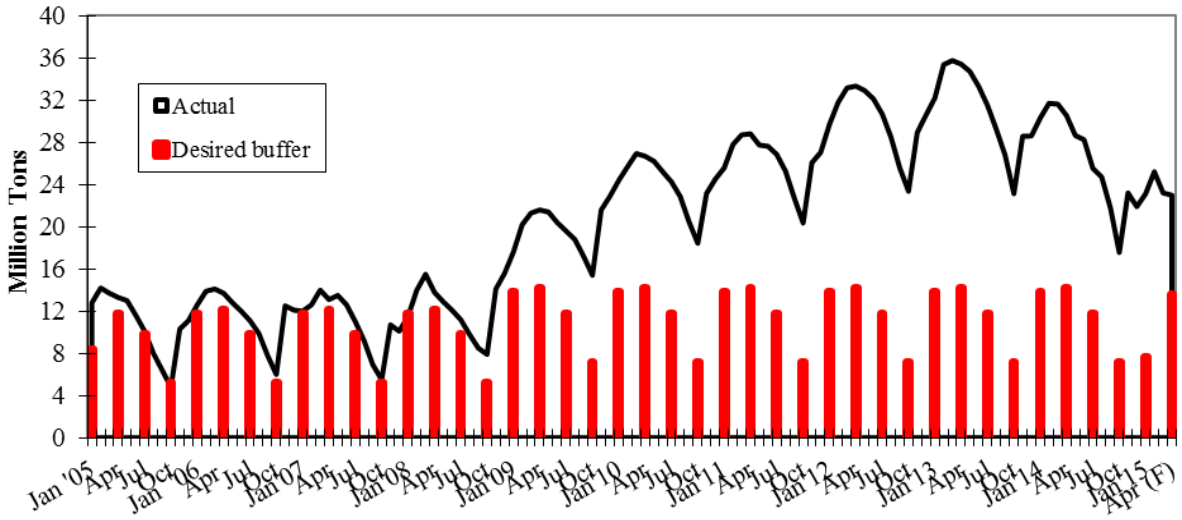
The MY 2014/15 export forecast is 9.0 MMT (5.8 MMT coarse rice and 3.2 MMT Basmati rice) on strong export pace and competitive pricing. Since September 2014, exports have surged on sales to Sri Lanka and other traditional markets in Africa and the Middle East. Government is unlikely to impose any export restrictions on rice exports due to high domestic supplies.

Preliminary CY 2014 export figures from official and private sources indicate export sales totaling 10.88 MMT. Major export destinations were Saudi Arabia, Iran, Senegal, Bangladesh, Sri Lanka, U.A.E, Nigeria, South Africa, and Guinea.

Stocks:

On February 1, 2015, government-held rice stocks declined to 25.2 MMT due to uncompetitive pricing (see Government Procurement and Supplies for Food Programs section). At the current pace of domestic sales and procurement, on October 1, 2015, government rice stocks are forecast to decline to 12.0 MMT (compared to 17.6 MMT during the same time last year), but will still be higher than the GOI's desired stocks of 10.3 MMT.

Figure 9. India: Govt. Rice Stocks-Actual Vs. Desired Buffer



Source: Food Corporation of India, GOI

There is no published information, official or industry, about privately held rice stocks. Relatively tight domestic supplies and steady export demand are likely to draw down the privately held MY 2014/15 ending stocks to 4.6 MMT. The rice PS&D table includes both government stocks and estimated privately held stocks.

Policy:

Production and Market Support:

The GOI and various state governments follow the same production policy for the two most important food crops: rice and wheat. However, the GOI, with the support of state governments, has also undertaken various rice-specific development schemes like the Special Rice Development Program (SRDP) and Promotion of Hybrid Rice (price subsidies on seed).

The government also undertakes a domestic price support, procurement, and distribution program for rice. The GOI has banned futures trading in rice since September 2007 on price inflation concerns as policy makers believe that futures trading may lead to speculation.

Trade:

On September 9, 2011, the government lifted the export ban on non-Basmati rice, which had been in effect since September 2007 (with *ad hoc* humanitarian exports exempted from time to time). However, 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, but there have been no imports due to uncompetitive pricing and consumer preference for local varieties.

Marketing:

Indian high-quality Basmati and select premium coarse grain varieties compete against U.S. rice in several markets, particularly the Middle East and various European countries. India also exports rice to the United States, which mostly caters to consumers whose family histories originate from the Middle East and South Asia.

Production, Supply and Demand Data Statistics:

Table 7. India: Commodity, Rice, Milled, PSD
(Area in thousand hectares and quantity in thousand metric tons, Yield in MT/Hectare)

Rice, Milled	2013/2014		2014/2015		2015/2016	
Market Begin Year	Oct 2013		Oct 2014		Oct 2015	
India	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested	43,940	43,950	43,500	42,500	0	44,000
Beginning Stocks	25,440	25,440	22,651	22,711	0	16,560
Milled Production	106,540	106,600	102,000	102,000	0	104,000
Rough Production	159,826	159,916	153,015	153,015	0	156,016
Milling Rate (.9999)	6,666	6,666	6,666	6,666	0	6,666
MY Imports	0	0	0	0	0	0
TY Imports	0	0	0	0	0	0
TY Imp. from U.S.	0	0	0	0	0	0
Total Supply	131,980	132,040	124,651	124,711	0	120,560
MY Exports	10,149	10,149	8,700	9,000	0	8,500
TY Exports	10,800	10,880	8,700	9,000	0	0
Consumption and Residual	99,180	99,180	99,151	99,151	0	99,500
Ending Stocks	22,651	22,711	16,800	16,560	0	12,560
Total Distribution	131,980	132,040	124,651	124,711	0	120,560
Yield (Rough)	3.6374	3.6386	3.5176	3.6004	0.0000	3.5458

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

Prices In	Rupees	per uom	metric tons	
Year	2012	2013	2014	%Change
Jan	23,105	27,828	27,198	-2.3
Feb	22,764	26,300	27,612	5.0
Mar	23,193	24,577	28,462	15.8
Apr	23,750	25,825	30,162	16.8
May	23,324	26,777	29,162	8.9
Jun	22,827	27,190	29,020	6.7
Jul	22,940	26,682	32,165	20.6
Aug	23,918	26,295	32,539	23.7
Sep	23,305	26,905	25,697	-4.5
Oct	24,079	27,501	28,014	1.9
Nov	24,406	29,241	27,792	-5.0
Dec	25,876	29,215	27,258	-6.7
Exchange Rate	62.10	Local Currency/US$		
Date of Quote	02/11/2015	MM/DD/YYYY		

National Average Monthly Wholesale Price of Common Rice
Source: Agmarket News (http://agmarkweb.dacnet.ic.in), Ministry of Agriculture, GOI

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

Exports for	CY 2013		CY 2014[1]
U.S.	127,527	U.S.	164,917
Others		**Others**	
Iran	1,671,205	Saudi Arabia	972,701
Saudi Arabia	888,430	Iran	926,272
Senegal	739,165	Senegal	651,411
South Africa	450,950	Bangladesh	589,815
UAE	390,273	Sri Lanka	467,540
Cote D' Ivorie	292,953	UAE	414,536
Liberia	289,646	Nigeria	383,721
Cameroon	288,766	South Africa	322,546
Bangladesh	272,170	Guinea	321,859
Yemen	212,437	Liberia	260,281
Guinea	197,667	Kuwait	226,046
Total for Others	**5,693,662**	**Total for Others**	**5,536,728**
Others Not Listed	4,738,132	Others	4,259,301
Grand Total	**10,559,321**	**Grand Total**	**9,960,946**

[1] Provisional data for the period January through November 2014
Source: Directorate General of Commercial Intelligence, GOI

Commodities:

Corn
Barley
Sorghum
Millet

COARSE GRAINS

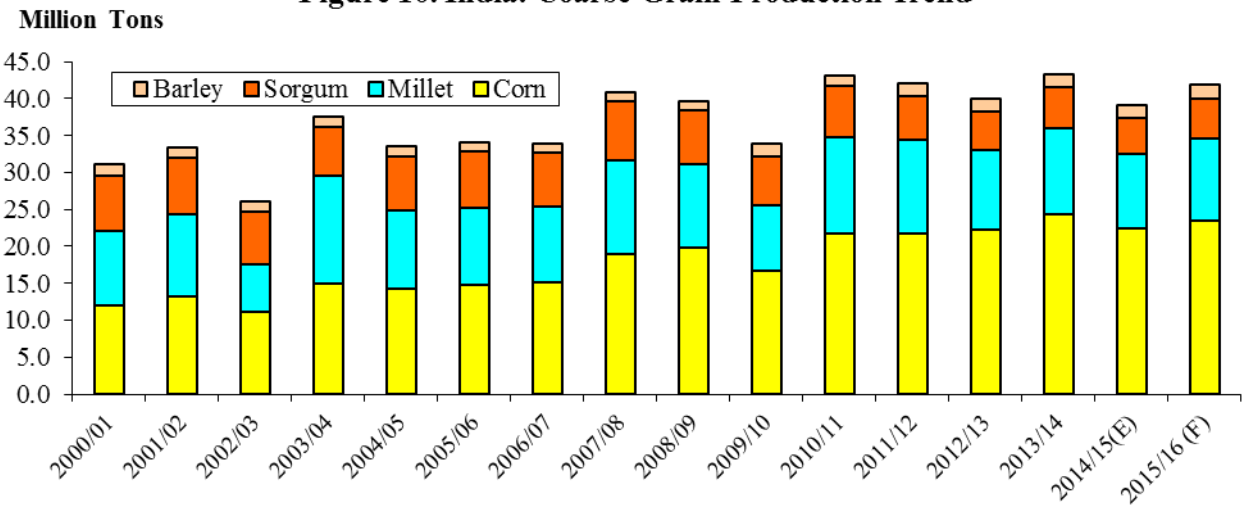
Production:

Because nearly 85 percent of the coarse grain area is unirrigated, production critically depends on the performance of the southwest monsoon rains. Assuming a normal monsoon this summer, MY 2015/16 coarse grain production is forecast up 2.7 MMT to 41.8 MMT. More than 75 percent of coarse grains are cultivated during the *kharif* season, while some corn and sorghum, and barley crops are produced during the *rabi* season.

MY 2014/15 total coarse grain production is estimated lower at 39.1 MMT (22.5 MMT of corn, 10.0 MMT of millet, 4.8 MMT of sorghum, and 1.8 MMT of barley), a 10 percent decline over last year's record harvest. Based on the latest official estimates, MY 2013/14 acreage and production in the PSDs have been marginally revised.

The delayed and deficient 2014 monsoon caused farmers to shift to other crops such as rice, cotton, and some oilseeds (as reflected from official planting estimates). Deficient monsoon rains also affected *kharif* coarse grain yields, particularly in Maharashtra, Rajasthan, Gujarat, and Karnataka. Deficient soil moisture conditions and weak market prices have discouraged planting of *rabi* season corn, sorghum, and barley.

Figure 10. India: Coarse Grain Production Trend



Source: Ministry of Agriculture, GOI; and FAS/New Delhi estimates for MY 2014/15 and 2015/16.

In the last few years, corn production in India has shown a steady upward trend on growing demand and higher productivity. There has been a growing demand from the rapidly expanding local poultry, starch, and commercial animal feed industries and steady export demand from neighboring markets. Increasing adoption of improved hybrids, particularly single cross hybrids, has encouraged farmers to bring more area under corn cultivation, as area under corn went up from 6.6 million hectares in early 2000's to a record 9.4 million hectares in MY 2013/14. Market sources report planting of hybrid corn at about 65 percent, which is expected to grow as farmers continue to replace the traditional cultivars with higher-yielding hybrid varieties.

Sorghum and millet production has slowed down in recent years due to an increasing shift in area to corn, cotton, soybean and other commercial crops. In the absence of any significant major productivity enhancing technological (varietal or agronomic) breakthrough, a lack of industrial sector demand and growing consumer preference for wheat have influenced farmer planting decisions. Millet and sorghum production (mostly unirrigated) also fluctuates year to year depending on the performance of the monsoon.

Production of barley, a relatively small winter crop in north India, has been relatively steady at around 1.8 MMT on demand from the malting and brewing industry. Traditionally barley production in India consists of feed quality, six-row varieties, unsuitable for malting and mostly used for food and animal feed purposes. In the last few years, a few new, high quality malting grade barley varieties have been developed through public-private breeding programs; these seeds are steadily replacing older varieties. Trade sources report that some malting and brewing companies have contract farms that produce malting grade barley grain in Rajasthan, Punjab, and Haryana.

Consumption:

In MY 2015/16, coarse grain consumption is forecast up 2.2 MMT to 39.3 MMT on continued steady demand from animal feed and industrial users. Since early 2014, relatively weak domestic prices and

growing consumer and export demand have fueled corn and other coarse grain purchases by the poultry and animal feed sector and other industrial users (e.g., starch and ethanol).

Traditionally, coarse cereals were the staple diet of Indians, especially for rural and lower income households. Because of the Green Revolution in the late 1960's, and the government's focus on improving food security, coarse grains have been increasingly replaced by rice and wheat. Recent economic growth and changing consumer preferences have continued to fuel a steady shift away from coarse grains.

Table 10. India: Per Capita Consumption of Corn, Sorghum and Pearl Millet for 30 days Period (In Kilogram)

Category	IFY 2004/05	IFY 2009/10	IFY 2011/12
Sorghum and Its Products			
Rural	0.43	0.29	0.20
Urban	0.22	0.18	0.13
Pearl Millet and Its Products			
Rural	0.39	0.26	0.24
Urban	0.11	0.09	0.08
Corn and Its Products			
Rural	0.31	0.20	0.13
Urban	0.025	0.021	0.014

Source: National Sample Survey - Household Consumption of Good and Services in India, 2011/12.

Nevertheless, coarse grains are still an important cereal supplement in the staple diet for a large section of subsistence farmers and the rural poor. Demand for coarse grains is also likely to improve among "health conscious" Indians consumers.

In the recent years, corn is increasingly used for feed and industrial use, particularly poultry feed and starch. Since MY 2013/14, the poultry industry has been growing very strong due to higher consumer demand for animal proteins. The starch industry, which largely caters to textile production, is also likely to continue to grow on domestic and export demand. Consequently, MY 2015/16 starch industrial corn consumption is estimated to grow by about five percent to 1.9 MMT. Some corn, estimated at about 1.25 MM, is also used for ethanol production in the potable liquor industry for producing blended whisky and other industrial products. Other corn is used to produce traditional foods, snacks, and savories.

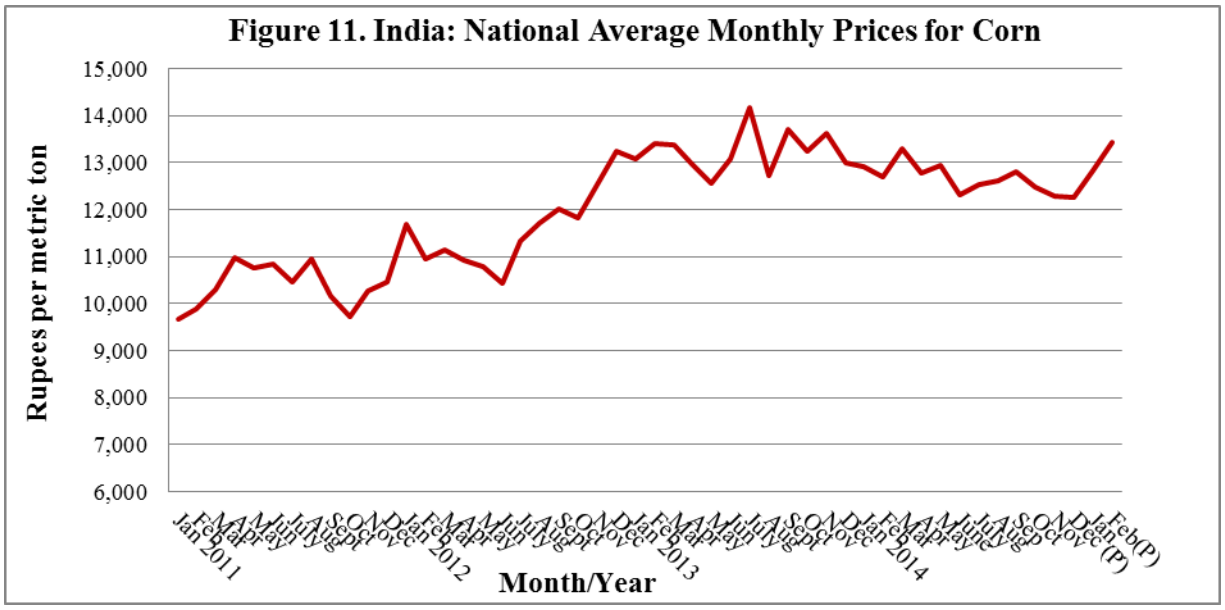
Food use accounts for a major share of sorghum, millet, and barley consumption. However, poor quality grains (largely rain damaged) are fed to cattle. Some new barley varieties are used for brewing

(around 600,000 metric tons). Indian sorghum is not traditionally fed to chickens due to its high tannins (poor taste), but is reportedly increasingly incorporated in the production of spirits, industrial alcohol, and starch.

India's domestic ethanol program uses molasses (a sugar industry byproduct) as feed stock, and does not utilize cereal grains for producing ethanol for fuel. Consequently, the domestic ethanol program does not affect the domestic and export market demand for cereal grains and its byproducts.

Prices

Despite lower domestic production, corn prices eased during the first quarter of MY 2014/15 on weak export demand, but gained since January 2015 on stronger domestic use. During the second week of February 2014, corn prices ranged from INR 11,290 ($181) to INR 14,240 ($229) per MT, marginally lower than previous-year prices during the corresponding period.

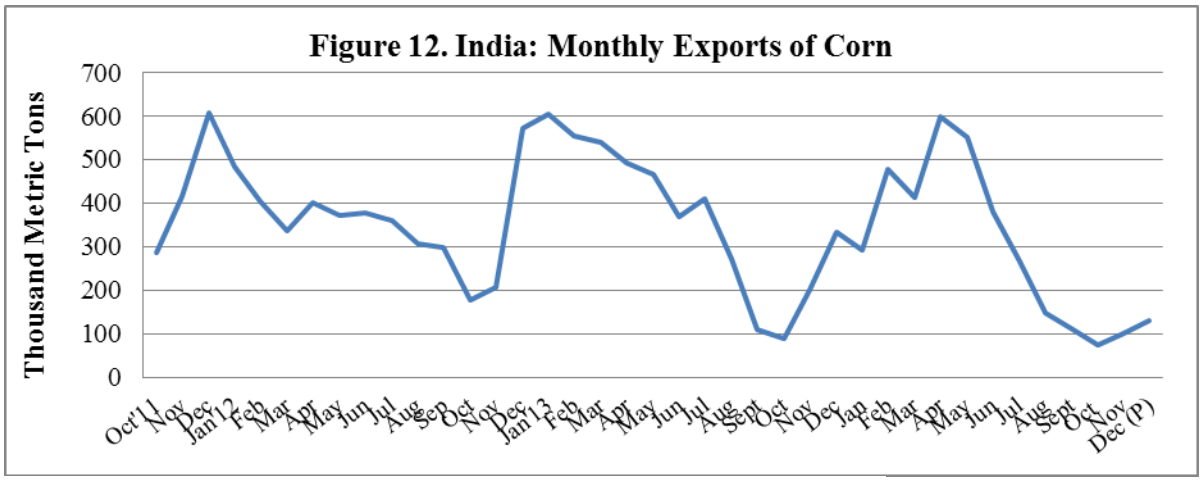


Source: Agmarket News (http://agmarkweb.dacnet.ic.in), Ministry of Agriculture, GOI

Trade:

Post forecasts MY 2015/16 at 2.0 MMT on expectations of less competitive pricing compared to other major exporters. India's ability to ship corn in small quantities (containers) is a key factor for regional buyers like Bangladesh, Nepal, Sri Lanka, and other markets like Indonesia. Occasionally, India exports small quantities of sorghum and barley, largely to neighboring countries and the Middle East.

After four consecutive years of bumper corn exports, MY 2014/15 exports are estimated to decline to 2 MMT on relatively weak export demand. Market sources report that Indian corn is currently $20 to $30 per MT more expensive than competing corn from other origins.



Source: Global Trade Atlas and private sources (December estimate)

Market prices in major corn surplus states are already below the government's MSP; however, these prices are unlikely to decline significantly due to strong domestic demand. Market sources believe that export prospects are likely to slightly improve after the *rabi* corn harvest in March. Assuming continued low, more competitive international corn prices, MY 2014/15 exports are estimated at 2.0 MMT, down nearly fifty percent over last year.

Policy:

Production:

The GOI's production policy and programs for coarse grains are significantly lower on coverage and budgetary support compared to rice and wheat. The government's MSP procurement program and food distribution program through the PDS for coarse grains are very limited and less effective than those for rice and wheat. During the current season, the central government advised the states to procure corn and other grains under MSP operation, strictly for PDS distribution. Consequently, most of the procurement was limited, strictly for PDS only, unlike previous years when government coarse grain stocks were sold to poultry and animal feed users. Sources report that the government procurement of coarse grain during MY 2014/15 has been limited to the state of Madhya Pradesh, estimated to be just over 300,000 MT. In MY 2013/14, the government procured more than 1.2 MMT from Karnataka, Telangana, Maharashtra, Madhya Pradesh, and Andhra Pradesh.

Unlike wheat and rice, the government does not have any buffer stock commitments for coarse grains. The GOI does not allow the use of food grains, including coarse cereals, to produce biofuels. However, grains certified not fit for human consumption can be used to produce potable liquor and other industrial usage. Efforts to produce ethanol from other feed stocks like sweet sorghum stover and crop waste are still in an experimental stage.

India has not commercialized any genetically engineered (GE) coarse grain crops. Reportedly, some corn events are going through the regulatory approval process, this process has been very slow. Several Indian seed companies and public sector research institutions are developing various GE crops including corn and sorghum, but it may take several years before it can be commercialized. Most biotech events

in other coarse grains (sorghum and millet) are still at the developmental stage, and have not been submitted for regulatory approval.

Trade:

Currently, the GOI imposes no restrictions on corn, millet, sorghum, and barley exports. Historically, India's trade policy allowed imports of most coarse grains only through the Food Corporation of India and other designated state trading agencies. On September 29, 2014, the GOI removed the restriction, which paved the way for imports by the private trade. Imports must adhere to phytosanitary conditions specified in the Plant Quarantine (Regulation of Imports into India) Order 2003. India imposes a basic import duty of 50 percent on sorghum and millet, while the import duty for barley is zero.

India allows corn imports under a tariff rate quota (TRQ) of 500,000 MT with a zero percent duty. Imports of corn outside the TRQ are subject to a 50 percent import duty. To import corn under the TRQ, the importer must obtain a Tariff Rate Quota Allocation Certificate issued by the Directorate General of Foreign Trade (DGFT). This certificate is issued in accordance with procedures developed by the EXIM Facilitation Committee. From MY 2012/13 to 2013/14, only state trading enterprises had access to the TRQ, which was not utilized during that time period. The September 29, 2014 notification may pave the way for corn imports under the TRQ in the future, but will be mostly limited to food grade corn and popcorn.

The GOI's phytosanitary requirements for weed seeds, ergot, and other SPS issues, including no approvals to date for any GE corn events, have effectively banned U.S. coarse grain exports to India. Imports of any GE product, including GE corn and food products derived from GE crops, are subject to approval by India's biotech regulatory agency, the Genetic Engineering Appraisal Committee (GEAC). To date, the GEAC has not approved any GE coarse grains or byproducts for import.

Marketing:

India currently does not import corn or other coarse grains in significant quantities. However, the growth of the poultry and starch industries may eventually create demand for imported corn in the next five to ten years, while growth in the brewing industry may fuel demand for malting grade barley in near future. India is likely to continue to import small quantities of food grade corn (e.g., sweet corn etc.,) and popcorn for the food processing industry due to growing consumer demand and low domestic supplies.

Production, Supply and Demand Data Statistics:

Table 11. India: Commodity, Corn, PSD

(Area in Thousand Hectares, Quantity in Thousand Metric Tons, Yield in MT/Hectare)

Corn	2013/2014		2014/2015		2015/2016	
Market Begin Year	Nov 2013		Nov 2014		Nov 2015	
India	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested	9,500	9,430	9,300	9,000	0	9,200
Beginning Stocks	651	651	1,480	1,450	0	1,260
Production	24,190	24,260	22,500	22,500	0	23,500
MY Imports	10	10	10	10	0	50
TY Imports	10	10	10	10	0	50
TY Imp. from U.S.	0	0	0	0	0	0
Total Supply	24,851	24,921	23,990	23,960	0	24,810
MY Exports	3,871	3,871	2,500	2,000	0	2,000
TY Exports	3,889	3,889	2,500	2,000	0	2,000
Feed and Residual	10,500	10,600	11,000	11,500	0	12,300
FSI Consumption	9,000	9,000	9,000	9,200	0	9,400
Total Consumption	19,500	19,600	20,000	20,700	0	21,700
Ending Stocks	1,480	1,450	1,490	1,260	0	1,110
Total Distribution	24,851	24,921	23,990	23,960	0	24,810
Yield	2.5463	2.5726	2.4194	2.5000	0.0000	2.5543

Table 12. India: Commodity, Corn, Prices Table

Prices In	**Rupees**	**per uom**	**Metric tons**	
Year	2012	2013	2014	%Change
Jan	11,696	13,084	12,908	-1.3
Feb	10,952	13,405	12,704	-5.2

Mar	11,137	13,368	13,311	-0.4
Apr	10,928	12,977	12,768	-1.6
May	10,794	12,555	12,944	3.1
Jun	10,439	13,093	12,325	-5.9
Jul	11,337	14,181	12,522	-11.7
Aug	11,728	12,714	12,615	-0.8
Sep	12,025	13,716	12,815	-6.6
Oct	11,826	13,237	12,468	-5.8
Nov	12,537	13,634	12,291	-9.8
Dec	13,243	13,004	12,261	-5.7
Exchange Rate	62.1	Local Currency/US$		
Date of Quote	02/11/14	MM/DD/YYYY		

National Average Monthly Wholesale Prices of Corn

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

Table 13. India: Commodity, Sorghum, PSD

(Area in Thousand Hectares, Quantity in Thousand Metric Tons, Yield in MT/Hectare)

Sorghum	2013/2014		2014/2015		2015/2016	
Market Begin Year	Nov 2013		Nov 2014		Nov 2015	
India	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested	5,900	5,820	5,500	5,200	0	6,000
Beginning Stocks	145	145	108	248	0	148
Production	5,250	5,540	5,000	4,800	0	5,500
MY Imports	0	0	0	0	0	0
TY Imports	0	0	0	0	0	0
TY Imp. from U.S.	0	0	0	0	0	0
Total Supply	5,395	5,685	5,108	5,048	0	5,648
MY Exports	87	87	50	50	0	100
TY Exports	89	89	50	50	0	100
Feed and Residual	700	750	700	700	0	750
FSI Consumption	4,500	4,600	4,200	4,150	0	4,500
Total Consumption	5,200	5,350	4,900	4,850	0	5,250
Ending Stocks	108	248	158	148	0	298
Total Distribution	5,395	5,685	5,108	5,048	0	5,648
Yield	0.8898	0.9519	0.9091	0.9231	0.0000	0.9167

Table 14. India: Commodity, Millet, PSD
(Area in Thousand Hectares, Quantity in Thousand Metric Tons, Yield in MT/Hectare)

Millet	2013/2014		2014/2015		2015/2016	
Market Begin Year	Nov 2013		Nov 2014		Nov 2015	
India	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested	9,200	9,750	8,800	8,640	0	9,500
Beginning Stocks	450	450	470	510	0	310
Production	11,520	11,660	9,500	10,000	0	11,000
MY Imports	0	0	0	0	0	0
TY Imports	0	0	0	0	0	0
TY Imp. from U.S.	0	0	0	0	0	0
Total Supply	11,970	12,110	9,970	10,510	0	11,310
MY Exports	0	0	0	0	0	0
TY Exports	0	0	0	0	0	0
Feed and Residual	1,500	1,600	1,200	1,200	0	1,400
FSI Consumption	10,000	10,000	8,500	9,000	0	9,500
Total Consumption	11,500	11,600	9,700	10,200	0	10,900
Ending Stocks	470	510	270	310	0	410

Total Distribution	11,970	12,110	9,970	10,510	0	11,310
Yield	1.2522	1.1959	1.0795	1.1574	0.0000	1.1579

Table 15. India: Commodity, Barley, PSD
(Area in Thousand Hectares, Quantity in Thousand Metric Tons, Yield in MT/Hectare)

Barley	2013/2014		2014/2015		2015/2016	
Market Begin Year	Apr 2013		Apr 2014		Apr 2015	
India	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested	780	695	810	674	0	690
Beginning Stocks	120	104	231	215	0	210
Production	1,750	1,750	1,810	1,830	0	1,850
MY Imports	2	2	50	15	0	25
TY Imports	25	25	25	15	0	25
TY Imp. from U.S.	0	0	0	0	0	0
Total Supply	1,872	1,856	2,091	2,060	0	2,085
MY Exports	441	441	550	550	0	400
TY Exports	546	546	300	500	0	400
Feed and	200	200	200	200	0	200

Residual						
FSI Consumption	1,000	1,000	1,100	1,100	0	1,250
Total Consumption	1,200	1,200	1,300	1,300	0	1,450
Ending Stocks	231	215	241	210	0	235
Total Distribution	1,872	1,856	2,091	2,060	0	2,085
Yield	2.2436	2.5180	2.2346	2.7151	0.0000	2.6812