

Trends in Agricultural Production

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The fourth advance estimates of agricultural production in 2012-13 see only a small change in output forecasts, but the outlook for 2013-14 is for a substantially higher level of foodgrain production. In the recent past, the area and production of non-foodgrains has risen faster than of foodgrains.

With India's real gross domestic product (GDP) growth sagging because of a deceleration in the industrial and service sectors, hopes for a turnaround now depend on the traditional agricultural sector. In this context of the good monsoon in 2013, this note reviews the trends in agricultural production of both food and non-food crops in recent years, with a particular focus on the fourth advance estimates of agricultural production for 2012-13. The analysis shows that there has been a significant overall turnaround in the agricultural situation since 2010-11, both food as well as non-food crops. There has also been a shift in favour of non-food crops.

1 Production Trends since 2002-03

The Eleventh Five-Year Plan (2007-08 to 2011-12) witnessed an average annual growth of 3.6% in GDP from the agriculture and allied sectors against a target of 4%. Although the performance of the sector fell short of the target, foodgrain production in the country had improved remarkably and registered an average annual growth of 3.8% as compared to 1.3% in the Tenth Plan (2002-03 to 2006-07).

Throughout the Eleventh Plan total foodgrain output showed rising production, except in 2009-10 when it declined to 218.11 million tonnes (mt) due to severe drought experienced in various parts of the country. In the next year, 2010-11, a normal monsoon helped the country reach a significantly higher production level of 244.49 mt. Later on, in 2011-12 production crossed the target of 254.24 mt despite deficient rainfall in some parts of the country and reached an all-time high of 259.29 mt due to better-than-expected production of pulses and several other crops. Apart from conducive weather, the record growth in foodgrain output in 2011-12 was a result

of rising yields, technological gains, better prices, timely policy interventions and implementation of various schemes such as the "Bringing Green Revolution to the Eastern Region" in the Eleventh Plan.

Advance Estimates (2012-13)

The south-west monsoon, which the country receives for four months in a year (June to September), was 8% below the long-period average (LPA) in 2012-13, whereas the north-east monsoon that year was 21% below the LPA (RBI 2013b). The late arrival of the south-west monsoon, its uneven progress and distribution during the kharif-sowing months led to delayed and lower sowing of crops. Consequently, kharif-crop production witnessed a fall. In 2012, the impact of the deficient north-east monsoons on rabi crops was somewhat mild. As a result the rabi crops, mainly pulses, oilseeds and coarse cereals registered a significant increase in production over the previous rabi season.

As per the fourth advance estimates (AE) released by the Ministry of Agriculture, in the first year of the Twelfth Plan, the country's grain output is expected to have fallen in 2012-13 by 1.5% to 255.36 mt as against 259.29 mt in 2011-12. This is mainly because production of both wheat and rice cultivation witnessed a fall due to poor rains in some states (Rajasthan, Karnataka and Maharashtra). Agricultural growth also decelerated to below-trend levels, due to the spatially and temporally deficient monsoon that affected kharif output. But the foodgrain output of 255.36 mt was still one of the highest recorded in recent years.

The data in Table 1 (p 84) reveals that kharif production accounts for about half of the total annual foodgrain output. Table 2 (p 84) provides summary details of the fourth AE of 2012-13 in comparison with the target and the production level of the third AE of 2012-13. (For a more detailed picture of long-term trends in food crop and commercial crop production, see "Current Statistics" in the 17 August 2013 issue of EPW.) The following observations can be made on

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the fourth AE of agriculture production 2012-13.

Food Crops

(i) The total foodgrain output is lower by 3.93 mt than the record production of 259.29 mt in 2011-12. The ministry estimates the overall kharif foodgrain output at 128.20 mt, about 2.3% lower than the 131.27 mt estimated for 2011-12. Total rice production (including kharif and rabi) for 2012-13 has been revised upwards to 104.40 mt from 104.22 mt in the third AE due to the thrust to rice cultivation in the eastern region.

(ii) Wheat production stood at a record 94.88 mt in 2011-12. As per the latest estimates, wheat output in 2012-13 was lower at 92.46 mt. Taking into account

the procurement and pricing trends, traders estimated that the crop could be much lower than the last year and have projected it to be lower by 10% to 15% compared to the government's estimates. Procurement by government agencies in 2012-13 declined to 25.08 mt

as compared to 38 mt the year before. Besides, market prices crossed the minimum support price (MSP) levels for the first time in five years in Uttar Pradesh (UP), the country's largest wheat producing state. In addition, the extended cold-wave conditions and erratic rains in

the major growing states of UP, Madhya Pradesh, Haryana and Punjab in February and March 2013 affected the yields and the crop. The production of coarse cereals is expected to be higher than average. There has been a slight improvement in the output of coarse cereals from 39.52 mt in the earlier estimate to 40.06 mt in the fourth AE on account of rise in production and yield of maize and bajra. But in 2011-12, however, coarse cereals production was much higher at 42.01 mt.

(iii) As per the fourth estimates pulses output has been revised upward to a record 18.45 mt in 2012-13 as compared with 18.00 mt in the third estimates on account of timely and uniform coverage of the monsoon across the country, favourable weather and higher area under cultivation (Chart 1). According to the Ministry of Agriculture, the total area under pulses in 2013 has increased to

99.63 lakh hectares against the normal 94.42 lakh hectares at this time of the year. In 2012, around 85.32 lakh hectares had been covered. In addition, a hike in the MSP for pulses is one of the major factors for the rise in acreage under cultivation. The higher MSP and special schemes to encourage farmers to adopt modern agronomic practices is expected to result in higher output (Table 3). The support prices for all pulses have been raised by over 30% in the last two years.

Table 3: Coverage of Kharif Pulses
(As on 30 August 2013) (in lakh hectares)

Crop	Normal	2012	2013
Tur	34.64	33.82	36.56
Urad	20.51	21.24	21.36
Moong	21.78	17.00	21.50
Others	17.49	13.26	20.21
Total	94.42	85.32	99.63

Source: Ministry of Agriculture.

Non-Food Crops

(i) The production of oilseeds has been estimated to be higher by 2.82 lakh tonnes (lt) at 310.06 lt in 2012-13 primarily due to higher production of sunflower and soyabean seeds. As per the estimate, the cotton output for 2012-13 has been revised upwards marginally to 34 million bales from 33.8 million bales in the third AE due to an expected gain in yield. The production of cotton stood at a record 35.2 million bales in 2011-12.

(ii) The production of sugar cane is pegged at 338.96 mt in 2012-13 as compared to 361.03 mt in 2011-12 which would translate into a decline of 6.1%.

2 Area, Production and Yield

An analysis of trends in indices of area, production and yield of different crops during the period 2007-08 to 2011-12 (Base: triennium ending 2007-08=100)

Chart 1: Total Foodgrains Production

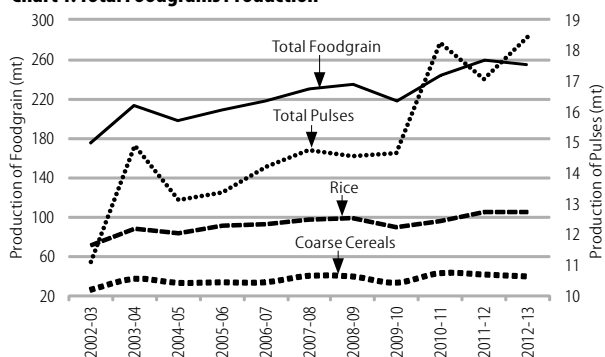


Table 1: Kharif, Rabi and Total Foodgrains Production (Million Tonnes)

Year	Kharif Foodgrains	Growth (in %)	Rabi Foodgrains	Growth (in %)	Total Foodgrains	Growth (in %)
Tenth Plan						
2002-03	87.22	-22.2	87.55	-13.1	174.77	-17.9
2003-04	117	34.1	96.19	9.9	213.19	22
2004-05	103.31	-11.7	95.05	-1.2	198.36	-7
2005-06	109.87	6.3	98.73	3.9	208.6	5.2
2006-07	110.58	0.6	106.71	8.1	217.29	4.2
Eleventh Plan						
2007-08	120.96	9.4	109.82	2.9	230.78	6.2
2008-09	118.14	-2.3	116.33	5.9	234.47	1.6
2009-10	103.95	-12	114.16	-1.9	218.11	-7
2010-11	120.85	16.3	123.64	8.3	244.49	12.1
2011-12	131.27	8.6	128.09	3.5	259.29	6
Twelfth Plan						
2012-13	128.2	-2.3	127.16	-0.7	255.36	-1.5

Source: Ministry of Agriculture, Agriculture Statistics Division, DES.

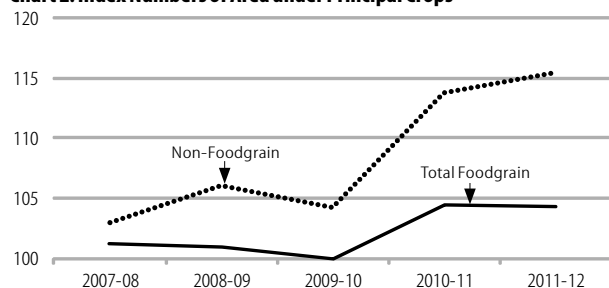
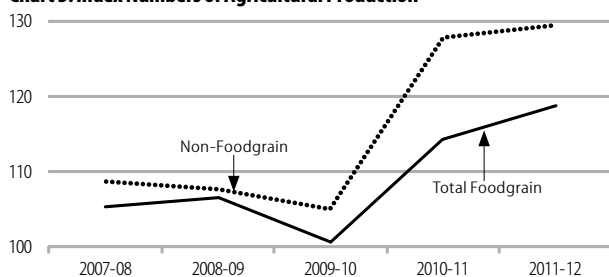
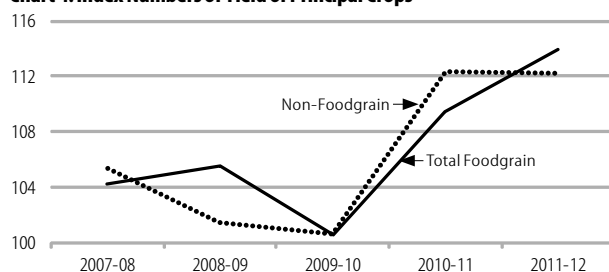
Table 2: Foodgrains and Commercial Crops Estimates Summary

Crops	3rd Advance Estimates		Targets		4th Advance Estimates		% Variation		Targets	
	2012-13	2012-13	2012-013	2012-013	3 over 1	2013-14	2013-14	2013-14	2013-14	
	1	2	3	4	5					
Foodgrains (Million Tonnes)										
Rice	104.22	104.00	104.40	0.17	105.00					
Bajra	8.71	10.00	8.74	0.30						
Maize	21.82	22.50	22.23	1.90						
Coarse cereals										
Cereals	39.52	44.00	40.06	1.40	42.50					
Total pulses	237.36	236.00	236.92	-0.20						
Total foodgrains	18.00	18.24	18.45	2.50	19.00					
Total foodgrains	255.36	254.24	255.36	0.00	259.00					
Commercial crops (Lakh Tonnes)										
Groundnut	54.34	87.14	47.49	-12.60						
Castorseed	21.53	13.92	21.77	1.10						
Soyabean	141.40	125.51	146.79	3.81						
Total nine oilseeds	307.24	335.00	310.06	0.90	310.00					
All season crops										
Cotton [@]	338.00	350.00	340.00	0.60	350.00					
Jute and mesta ^{@@}	112.54	120.00	112.96	0.40	120.00					
Sugar cane	3,361.46	3,520.00	3,389.63	0.84	3,400.00					

Cotton, jute, mesta and sugar cane are annual crops, but 4th Advance Estimate of kharif includes these crops as well.

@Lakh bales of 170 kgs each. @@Lakh bales of 180 kgs each.

Source: Ministry of Agriculture.

Chart 2: Index Numbers of Area under Principal Crops**Chart 3: Index Numbers of Agricultural Production****Chart 4: Index Numbers of Yield of Principal Crops**

indicates a mixed picture of the factors responsible for a rise in production.

Area: In recent years it is observed that the growth in area under non-foodgrain has been rising consistently in comparison to foodgrain. The overall index of area under foodgrain marginally moderated to 104.3 (125.0 million hectares) in 2011-12 from 104.4 (126.7 million hectares) in 2010-11 mainly due to a fall seen in the area of coarse cereals (Chart 2). The index of area of rice and wheat continued to rise during this period.

The index of area under non-foodgrain significantly increased to 115.5 in 2011-12 from 103.0 in 2007-08, indicating a shift in cultivation towards non-foodgrain crops like cotton and sugar cane. The index of area under cotton (with a weight of 4.4%) increased to 134.1 (12.2 million hectares) in 2011-12 from 103.7 (9.4 million hectares) in 2007-08. While for sugar cane (weight of 8.1%), the index of area rose to 105.9 (5.1 million hectares)

in 2011-12 from 91.9 (4.4 million hectares) in 2008-09.

Production: The substantial increase in foodgrain production in recent years indicates a shift not only in production trend but also in the availability of foodgrain. It is known that the increase in foodgrain production is largely due to an increase in yields. However, one cannot overlook the fact that a shift is taking place in favour of non-foodgrain production. Chart 3 shows that in terms of index numbers the growth in non-foodgrain production has surpassed foodgrain production. This has been due to a shift in area in favour of non-food crops. For

instance, the index of area under non-foodgrains increased to 115.5 in 2011-12 from 103.0 in 2007-08.

Foodgrain production index, with base 2007-08=100, stood at 105.4 in 2007-08 and improved to 118.8 in 2011-12 as the total foodgrain output reached an all-time high. The last five years witnessed an upward trend, barring 2009-10, when the index fell to 100.6 (218.1 mt) due to severe drought in various parts of the country (Chart 3).

Yield: From 2009-10 onwards there has been improvement in the annual growth in the indices of yield of both foodgrains and non-foodgrains. Nevertheless, the index for non-foodgrains initially shot-up but stagnated between 2010 and 2012, while the index for foodgrains exhibited an upward trend (Chart 4). Within foodgrains, both cereal and pulse indices saw an increase. The yield of cereals and pulses improved to 114.3 and 112.5 in 2011-12 from 104.5 and 102.8 in 2007-08, respectively.

3 Outlook for 2013-14

Agricultural growth is expected to pick up in 2013-14 as the south-west monsoon of 2013 arrived on time and is forecast to be normal by the India Meteorological Department. The progress of the monsoon has been encouraging so far, with 30 out of 36 meteorological subdivisions receiving excess or normal rainfall. Ample rains have improved the water storage levels in reservoirs. The water storage in 85 major reservoirs as of 8 August 2013 was 66% above the last year's level and 55% above the average of the last 10 years' storage (RBI 2013a). This is going to support both the kharif and rabi crops. So far, 91% of the normal area for a full kharif season has already been sown.

For 2013-14, the government has set the total foodgrain production target at 259 mt. In order to meet the targets of various crops the government is implementing several crop development programmes/schemes that involve various activities like demonstration of high-yielding varieties, distribution of improved hybrid seeds, resource conservation techniques, efficient water application tools and cropping-system-based training.

The production of foodgrain and non-foodgrain crops can be further improved by adopting technological and policy interventions. Besides, it is imperative to address supply chain and marketing inefficiencies to bring down damage to agricultural produce during handling and storage owing to inadequate post-harvest facilities. As per the "Report of Working Group on Warehousing Development and Regulation for the Twelfth Plan Period", the warehousing capacity available in India in public, cooperative and private sectors is about 109 mt and an additional 35 mt of warehousing capacity is estimated to be required during the Twelfth Plan for the storage of major crops.

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