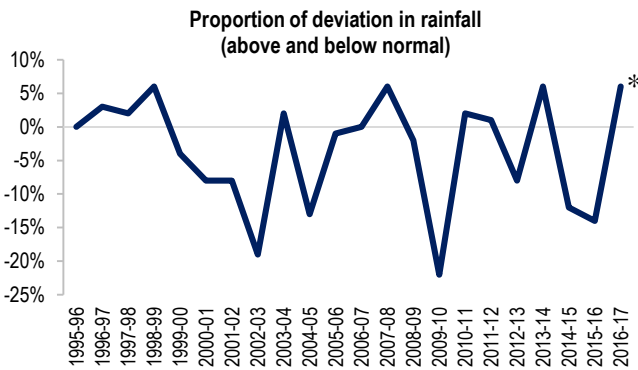


Vital Stats

Status of water availability for agriculture in India

As of July 7, 2016, rainfall in the country in the 2016 monsoon season is estimated to be 1% above normal rainfall. However, due to deficient rainfall in the country resulting in drought conditions over the past two years, the water storage in the country is at lower levels than normal. In this context, we present some trends regarding the availability of water for agriculture in the country.

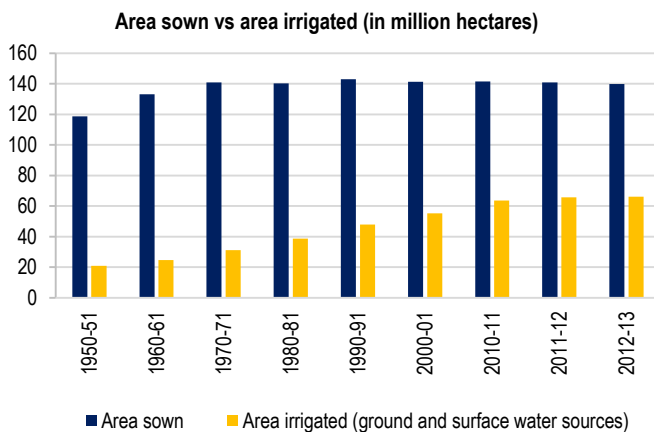
Deficient rainfall over past few years has affected availability of water for agriculture



- Rainfall in the country (as compared to the average rainfall since 1951) has been volatile over the past 20 years. The lowest level of rainfall was in 2009-10, at 22% below normal, whereas the highest level of rainfall was in the years 2013-14, 2007-08 and 1998-99, at 6% above normal.
- This deviation in rainfall may not be uniform across the country. For example, in a year of overall excess rainfall, there may be regions which received deficient rainfall.
- The rainfall in the 2016 monsoon season has been estimated to be 6% above normal rainfall.

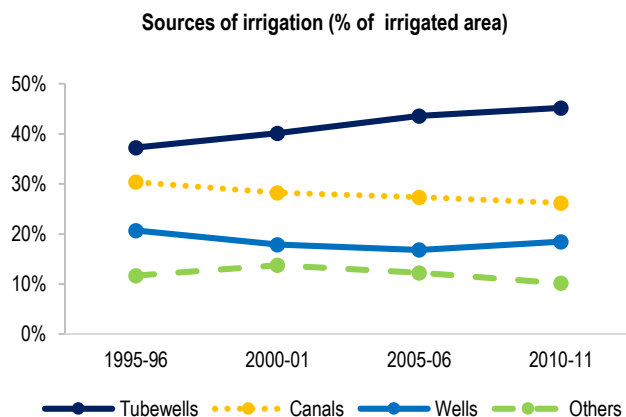
*estimate of Indian Meteorological Department for 2016 season.
Note: Above 0% = surplus in rainfall; below 0% = deficiency in rainfall.

More than half of agricultural land, i.e. 53% is dependent on rain-fed irrigation



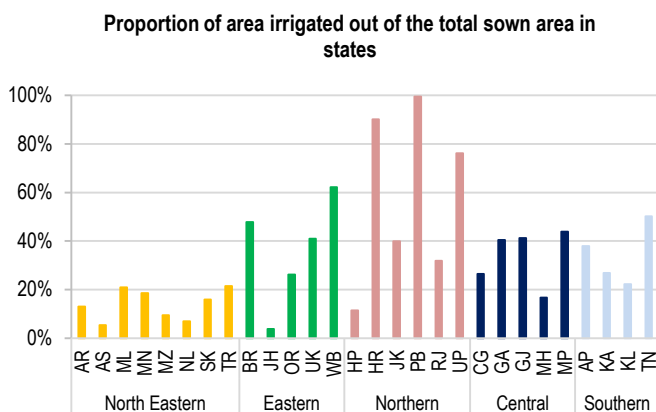
- 53% of the sown agricultural area in the country is dependent on rain-fed irrigation as of 2012-13 (provisional), which is the latest data available. Rain-fed irrigation is dependent on rain water and is not supplemented by water from any other source.
- 47% (66.1 million hectares) of the sown area is irrigated by ground water sources such as wells and tube-wells, and surface water sources such as canals and tanks, as of 2012-13. This area constituted 18% (20.9 million hectares) of the sown area in 1950-51.

The remaining 47% of the agricultural area is largely irrigated by ground water sources



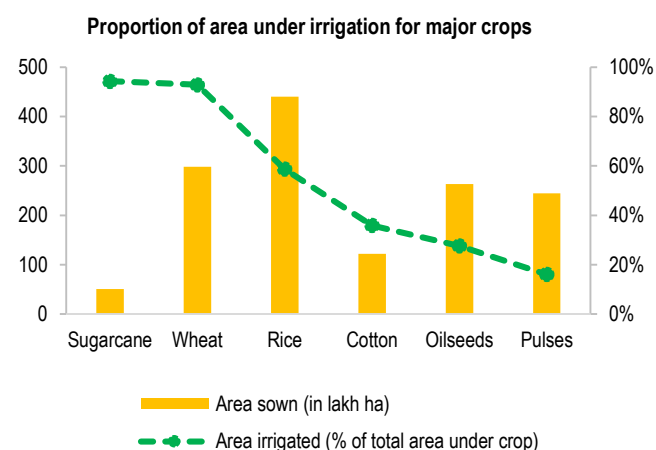
- For the area not dependent on rain-fed irrigation, ground water sources such as wells and tube-wells have the highest share in irrigation. The area irrigated by tube-wells and wells has increased from 58% of the irrigated area in 1995-96, to 64% in 2010-11.
- States with the highest dependency on ground water for irrigation include Punjab (79% of the area irrigated is by tube-wells and wells), Uttar Pradesh (80%) and Uttarakhand (67%).
- On the other hand, use of canals for irrigation has decreased from 30% of the irrigated area in 1995-96, to 26% in 2010-11.

Northern states depend on ground and surface water; North Eastern states on rainfall



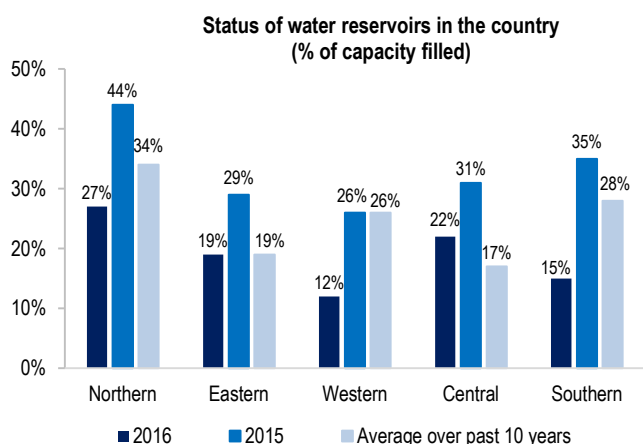
- The northern states of Punjab (99.5%), Haryana (90%), and Uttar Pradesh (76%) have the highest proportion of sown area which is irrigated by ground water and surface water sources.
- In contrast, less than 25% the sown area in the north-eastern states of Manipur, Meghalaya, Mizoram, and Nagaland is irrigated by ground and surface water sources. This implies that these states rely more on rain-fed irrigation.
- The central states such as Maharashtra (17%) and Chhattisgarh (26%), and southern states such as Kerala (22%) and Karnataka (27%) also have lower proportions of sown area under irrigation.

94% of area under sugarcane is irrigated, whereas 16% of area under pulses is irrigated



- 94% of the area on which sugarcane is cultivated is irrigated by ground and surface water sources as of 2011-12. In Uttar Pradesh and Maharashtra, which are the highest producers of sugarcane, 93% and 100% of the area under sugarcane is irrigated.
- 93% of the area under wheat, and 59% under rice is irrigated. In Uttar Pradesh, which is the highest producer of wheat and second highest of rice, 98% and 80% of the area is irrigated under wheat and rice respectively.
- On the other hand, only 16% of the area on which pulses are grown is irrigated. In Madhya Pradesh and Maharashtra, the highest producers of pulses, 35% and 9% of the area under pulses is irrigated.

Water reservoirs in the country are filled to 18% of their full storage capacity



Note: Data as on July 6, 2016.

- In comparison, during the same period in 2015, these reservoirs were filled up to 55% of their capacity. Note that the 10-year average of the water storage in the country is 74% of the total capacity.
- Water from reservoirs contributes to surface water sources. This water may be used for irrigation for agriculture, and for other purposes such as generating hydroelectric power and providing drinking water. A year of deficient rainfall affects the recharge of water in these reservoirs.
- The water stored in reservoirs is lower than last year across all regions. This may be attributed to the 12% and 14% deficiency in rainfall in 2015 and 2014. The western and southern regions of the country have the lowest levels of water storage, at 12% and 15% of total capacity respectively.

Sources: Indian Meteorological Department (IMD); IMD weekly monsoon update for July 7, 2016; Agricultural Statistics at a Glance, 2014; Pocket Book of Agricultural Statistics 2015; Ministry of Water Resources; Agricultural Census, 2011.

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