Uttar Pradesh: Agriculture

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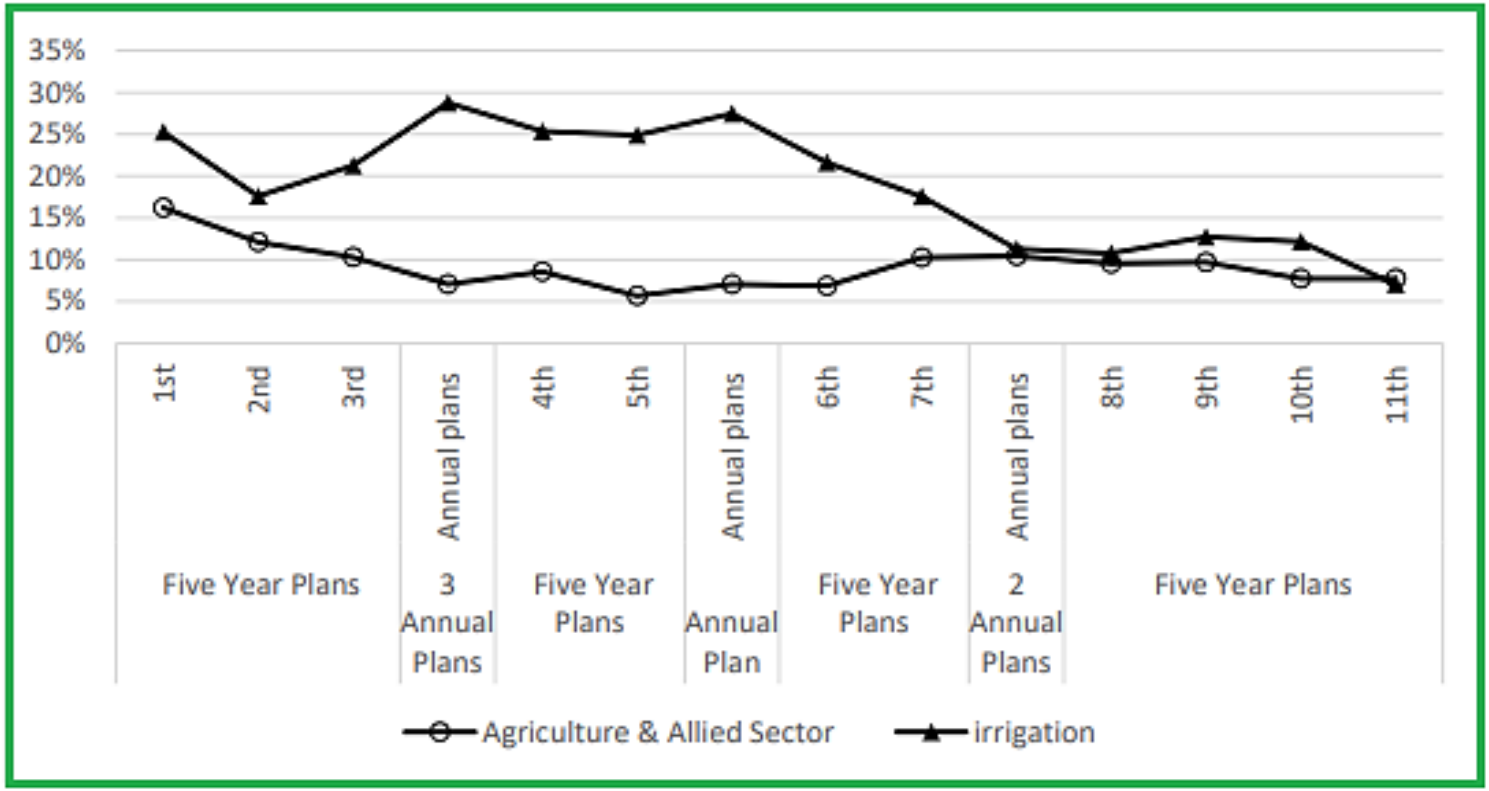
Agriculture Status

- UP has more than 18 million agricultural households in the state and approximately 59 percent of its workforce was dependent on agriculture for a livelihood in 2011 (as per NSS 2012-13; and Census 2011).
- There is an excessive dependence of a large section of the population on agriculture (in 2011 census nearly 55 per cent of the rural persons were from households whose members major activity status was either self-employed in agriculture or agricultural labour).
- The largest source of growth is the livestock sector, followed by sugar, forestry, cereals, fruits and vegetables, and fisheries.
- The average monthly income of an agricultural household in UP was about Rs. 4900, as per the latest information available for year 2012-13 from 70th Round of National Sample Survey. On the other hand, the same data shows that an agricultural household in Punjab and Haryana earned Rs. 18000 and 14400 per month, respectively.
- Kharif and Rabi are the two major crop seasons in the state. Between Kharif and Rabi season, Rabi season appeared to be the prime agriculture season
- Access to irrigation and rainfall were the major determinants of the cropping pattern
- Decline in the trend growth rate of production as well as productivity for almost all crops from the mid-nineties. Further, the value of output from agriculture has been declining from late nineties.

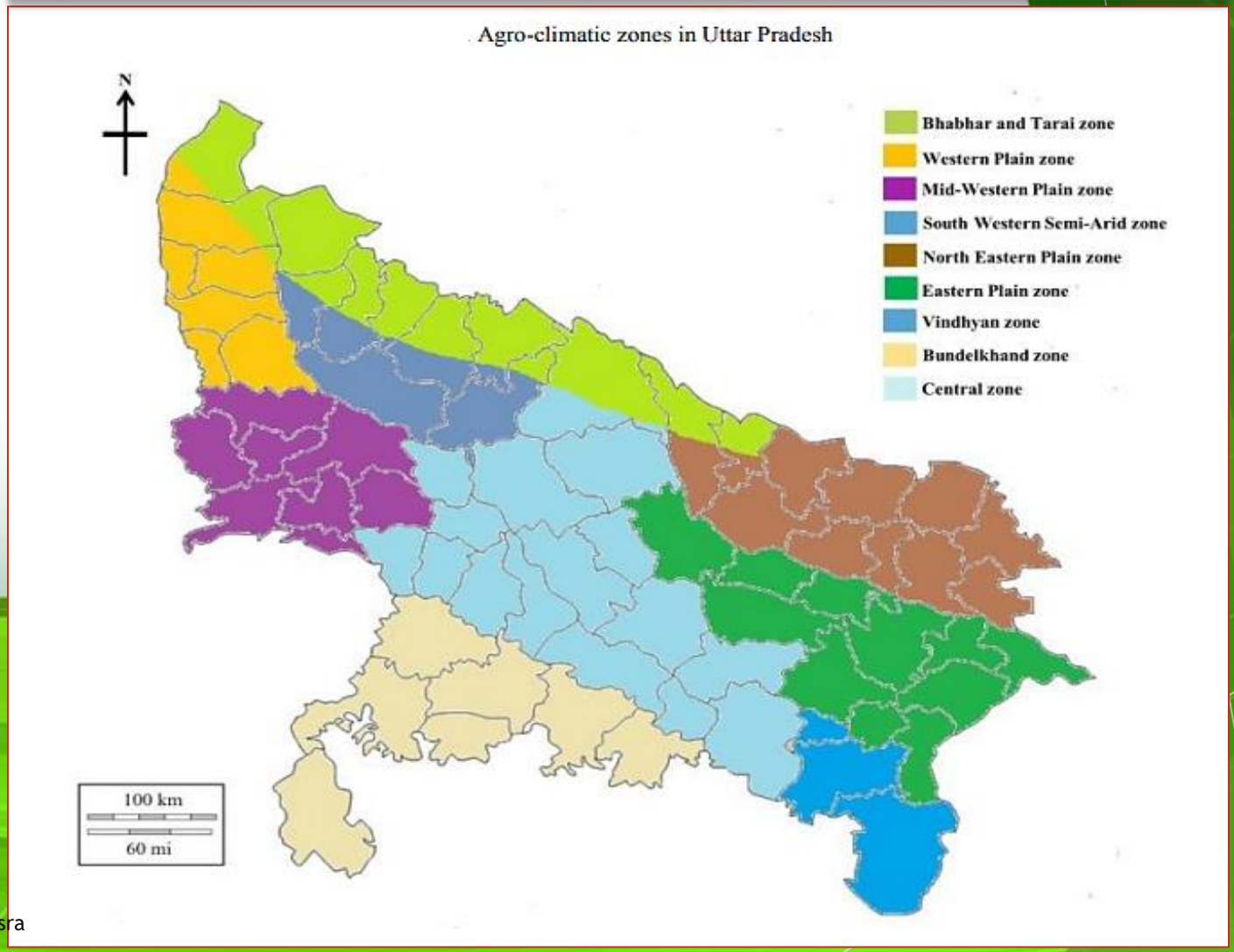
- Declining size-class of holding and an increasing prevalence of marginal holdings .
- Green revolution had a greater focus on rice and wheat.
- Neglect of agriculture in plan resource allocation has led to a decline of public investments in irrigation and other related infrastructure.
- Supply of credit from formal sources to the agricultural sector are inadequate.
- The growing economic and social disparities between agriculture and the rest of the economy.
- Farmers usually not able to pay back loan with high interest, fell into the debt trap, further leading to suicides.

Trend in Plan Expenditure on Agriculture and Allied Sector and Irrigation



Source: Planning Department, Government of Uttar Pradesh, Lucknow.

Agri-climatic zones on the basis of Agricultural Productivity



Categorization of Agri-climatic zones on the basis of Agricultural Productivity

Zones	Productivity of Food-grains (Q/Ha)	Category
Tarai & Bhabhar	25.07	High
Western Plain	31.53	High
Mid- Western	25.17	High
South Western Semi-dry	27.51	High
Mid-Plain/ Central	24.68	Medium
Bundelkhand	14.58	Low
North Eastern	23.24	Medium
Easter n Plain	23.43	Medium
Vindhyan	17.62	Low
Uttar Pradesh	23.66	

Source: NITI Aayog, New Delhi.

Agro Climatic Zone	Average Annual Rain Fall(mm)	Irrigated Area (%)	Soil	District
Bhawar and plain, tarai plain	1400	73.29	Minimum to medium in Alluvial phosphorous Medium to high in potassium and organic matter in high quantity.	Parts of different district under the zone have been included in concerned agro climatic zone.
Western Plain Zone	795	89.23	Alluvial, pH- normal to alkaline and organic matter minimum to medium quantity	Shaharanpur Muzzaffar nagar, Baghpat,
Mid western plain zone	1032	83.21	Mostly alluvial, PH Normal to slightly alkaline and organic matter in medium quantity.	Bijnore, Moradabad, Rampur, Bareilly, Badaun, Pilibhit and Shahjahanpur (7 district)
Western sub tropical zone	662	75.52	Alluvial and aravali	Aligarh, Mathura, Agra, Firozabad, Etah, Mainpuri (6 districts)
Mid plain zone	863	66.41	Alluvial, PH Normal to slightly alkaline and organic matter in medium quantity.	Farrukhabad, Kannauj, Etawah, KanpurNagar, KanpurDehat, Unnao, Hardoi, Khiri, Sitapur, Lucknow, Raebareilly, Fatehpur, Pratapgarh and Allahabad (14 districts)
Bundelkhand Zone	867	38.65	Rakar, Parwa, Kabar and Mar	Lalitpur, Jhansi, Jalaun, Hamirpur, Banda and Chitrakott (7 districts)
North Eastern Plain Zone	1240	48.24	Alluvial and calcarious soil	Behraich, Balrampur, Gonda, Siddharthnagar, Basti, Maharajganj, Kushinagar and Deoria (9 districts)
Eastern Plain Zone	803	69.43	Alluvial , sodic and diara soil	Barabanki, Faziabad, Sultanpur, Jaunpur, Azamgarh, Mau, Ballia, Ghazipur, Varanasi and Sant Ravidasnagar (10 districts)
Bindhya Zone	1134	52.85	Black heavy, Red granular and Alluvial soil in plains	Mirzapur and Sonbhadra (2 Districts)

Cropping Pattern

- The soils in the region falling in Eastern parts and Vindhyachal are alluvium-derived soils mostly khaddar (recent alluvium) and hangar (old alluvium). In some area the soil is highly calcareous.
- The soils are loamy and high in organic matter content.
- Rice, maize, pigeon pea, moong bean crops are common in *kharif* season.
- In post-rainy (*rabi*) season wheat, lentil, Bengal gram, pea, and sesame and at some places groundnut is grown on residual soil moisture with one or two supplemental irrigation.
- The important cash crops of the region are sugarcane, potato, tobacco, chillies, turmeric and coriander with supplemental irrigation. Rice–wheat cropping system is more predominant.
- The dominant soil landscapes, representing the northern plains, constitute gently to very gently sloping lands. In some area the soil is highly calcareous.
- The soils in general are neutral in reaction and have moderate clay and low organic carbon content.
- Traditionally rain fed and irrigated agriculture is common.
- The main crops grown are rice, maize, pigeon pea, sorghum, pearl millet, moong beans during kharif and wheat, Bengal gram, green peas, rapeseed and mustard and lentil during rabi season.
- Sugarcane is the main cash crop. Rice–wheat cropping system is more predominant.

Net Area Irrigated by Different Sources in Uttar Pradesh

(Area in Hectare)

Year	Canals	Tubewells and Wells	Tanks and Lakes	Other Sources	Total	Percentage of Net Irrigated Area to Net Area Sown
1950-1951	1847122	2181449	-	811125	4839696	29.80
1960-1961	1992580	2387123	419069	245304	5044076	30.50
1970-1971	2497972	4033735	371303	315701	7218711	41.70
1980-1981	3178250	5799490	166364	308934	9453038	54.90
1990-1991	3192858	7054297	104437	309119	10660711	61.60
1995-1996	3089745	7826679	58100	772860	11747384	67.50
2000-2001	2748801	9378427	67145	206134	12400507	73.70
2001-2002	2718702	9904258	84261	121014	12828235	76.30
2002-2003	2630485	10012024	127281	78438	12848228	77.40
2003-2004	2767233	9357143	147461	955501	13227338	79.00
2004-2005	2691891	10144417	144834	137657	13118799	78.60
2005-2006	2652074	10218370	136897	67412	13074753	78.60
2006-2007	2613665	10488588	149166	61732	13313151	80.30
2007-2008	2657885	10580526	104780	41337	13084528	79.70
2008-2009	2666549	10599483	124659	44438	13435129	81.10
2009-2010	2558098	10646697	125891	52716	13383402	80.80
2010-2011	2538838	10760463	102340	38713	13440354	81.00
2011-2012	2554554	11009249	98710	146233	13808746	83.10
2012-2013	2541070	11215639	115775	56032	13928516	84.10
2013-2014	2556870	11291484	118910	59723	14026987	84.80
2014-2015	2481854	11657023	183647	66914	14389438	81.80

Source : Economics and Statistics Division, Govt. of Uttar Pradesh,

Scope of Farm Mechanization

- The State although highly populated, should progressively adopt power farming for timely and precise field operation at reduced costs and to maximize utilization efficiencies of costly inputs and for conservation of natural resources.
- Precision land levelling and use of efficient irrigation equipment for economizing in water requirements of crops including diversification of crops suiting to water availability are important issues in the region.
- Gradual increasing in farm power availability from the present level of 1.75 kW/ha to about 2 kW/ ha by 2020 is necessary for timely farm operations.
- Mechanization of most of the agricultural operations through custom hiring of high capacity equipment is required so that marginal, small and medium categories of farmers can also take the advantage of mechanization.
- Crop residue management for feed, fodder and energy is also important.
- It is presumed that by 2020, about 70% of the tillage, land leveling, sowing/planting, irrigation and threshing of all the important crops will be fully mechanized and other operations for different types of crops will be mechanized upto about 25–30%. In U.P. sale of tractors is maximum. However, about more than 50 laser land leveler are being used on custom hire basis.

Important Factors Explaining Crisis in Agriculture

- High indebtedness . It reduces cropping intensity (for want of resources), makes appropriate technology inaccessible, distress sales
- High cost of cultivation and frequent crop failure
- Declining crop yield
- The falling profitability of agriculture
- Low investment by public sector
- Lack of proper irrigation facility especially in Bundelkhand.
- Marginalization of farmers and low access to modern technology in Eastern belt.
- Sugarcane (the main commercial crop of Uttar Pradesh that covers more than 70 percent of net sown area in western region) growing farmers do not receive sufficient return from their cultivation, exploitation from mill owners and pending arrears
- At the block or village level, market imperfection emerges as a main bottleneck in earning a remunerative price of the agricultural product.
- Price spread and farmers not getting remunerative prices

Marketing Infrastructure Projects Sanctioned under National Horticulture Mission (NHM) Scheme in Uttar Pradesh (As on 31.03.2017)

(Rs. in Lakh)

State	Rural Primary Market		Wholesale Market		Terminal Market Complex	
	No. of Project	Assistance	No. of Project	Assistance	No. of Project	Assistance
Uttar Pradesh	4	90.84	11	1599.22	-	-
India	215	1141.75	68	7115.67	5	14814.00

Source : Ministry of Agriculture & Farmers Welfare, Govt. of India.

Recent Agricultural schemes in the State

Sr.No.	Scheme Name	Year	Objective
1	U.P Kisan Asan Kist Yojana	2020	Under this U.P Easy Installment Scheme, farmers can pay their outstanding tubewell electricity bills in installments (kishts). As per the Energy department of Uttar Pradesh, the interest waiver on tubewells bill would also remain applicable. Each farmer can now avail the benefits of aasaan kisht yojna by applying online at the nearest CSC
2	Mukhyamantri Krishak Durghatna Kalyan Yojana	2020	Under this accidental insurance scheme, the state govt. will provide financial assistance to family of farmer's who die or become handicapped while working in fields. This new scheme will replace the existing U.P Mukhyamantri Krishak Durghatna Jivan Bima Yojana.

3	**U.P Mukhyamantri Kisan & Sarvhit Bima Yojana**	**2020**	U.P Mukhyamantri Kisan & Sarvhit Bima Yojana will cover the incidents of road / air / rail accidents, collision, injury due to fall, leakage of gas, mongoose (Nevla), injury due to cylinder burst, dog bite, bite and attack by an wild animal, burning, drowning, flowing in the flood, cutting the hands and legs due to accident, earthquake and lightening. Upon implementation, this scheme will benefit 12 crore people in mostly rural areas.
4	U.P Fasal Rin Mochan Yojana	2018	U.P Fasal Rin Mochan Yojana or the loan waiver scheme is expected to benefit about 86 lakh farmers across the state whose loans would be waived off by the government. U.P farm loan waiver scheme or the fasal rin mochan yojana is the first official scheme launched by CM Yogi Aadityanath after coming to the power. By 17th of August 2019, all the eligible farmers should get the loan waiver and thereafter the loan waiver certificates.

			Subsequently, farmers will receive energy efficient pumps sets of different capacities. Accordingly, this scheme will save energy and helps in achieving the target of “Power for All”. Under this scheme, the state govt. is going to provide 10 lakh pumps to the farmers till the financial year 2022.
5	**Kisan Uday Yojana**	2017	This scheme is going to reduce the dependence of farmers on the conventional power pumps which utilizes 35% more energy. Moreover, farmers can turn the pump on or off through their cell phones. In addition to this, the farmers will also get free of cost maintenance for the upcoming 5 years.

6	**Pradhan Mantri Krishi Sinchai Yojana**	2015	Pradhan Mantri Krishi Sinchai Yojana (PMKSY) is going to be implemented in all districts of UP. PMKSY will extend coverage of irrigation ‘Har Khet ko Pani’ and improve water use efficiency ‘More Crop per Drop’ in focused manner. Yogi Adityanath said that PM Krishi Sinchayee Yojna will ensure water harvesting and increase productivity of farmers. The state govt. of UP was already providing 35% subsidy in addition to prescribed subsidy on drip irrigation system, sprinklers and other latest techniques of irrigation. All the small and marginal farmers are given 90% of cost of these units in form of subsidy and 80% in case of other farmers.

Schemes related to Allied sectors in Uttar Pradesh

Sr.No.	Scheme Name	Year	Objective
			Subsequently, this scheme will provide job opportunities to 25 lakh unemployed candidates across the state. Accordingly, UP govt. will provide Rs. 25000/- to local craftsmen and entrepreneurs in the upcoming 5 years. UP govt. had launch this scheme on 24 January 2018. The complete ODOP district wise list of products is available at odop.in
1	One District One Product Scheme	2018	The agricultural products include pulses, Kala Namak rice where as allied sectors include Wheat stalk handi craft ,Hing 'Asafoetida', Perfume(Attar), Banana fiber products,.One District One Product Scheme will boost the GDP of the state up to 2 percent. Govt. will implement this scheme with the collaboration of several industries working in various states. Furthermore, each district will get assigned a product under Ek Zila – Ek Utpadan Scheme.

2	**Phal Patti Development**	2017	• To get the direct environmental safety. • To make awareness in public regarding environmental safety. • Solutions on nutritional safety. • Updation in soil health. • Enhancement in quality fruit production. • Increase in the production capacity in the unproductive gardens by implementing the canopy management/renovation. • Creation of additional employment.

3	**Paan utpaadan yojna**	**2016**	• To enhance the income of betel producers and to improvise their financial condition. • To introduce new developed technologies in betel production. • To increase the agricultural area of betel production. • To promote scientific biological methods over disease and pest control. • To do reformation in grading, packing stores, transport and marketting. • To increase the employment. • To stop betel producers' migration in other areas. • To increase maximum income and employment in per unit area. • To develop resources in quality betel production.

4	**Pradhan mantra Krishi Sichai yojna : Per drop More Crop**	2015	• Quality production and increase in productivity by adopting drip and sprinkler irrigation system in horticulture and agricultural crops. • Use of water as per age of saplings and requirement. • Encouraging ground water harvesting in view of day to day fall in water levels. • Reduction in use of chemical fertilizers / pesticides by using drip irrigation at the root of saplings and fertilizers and anti pest/disease chemicals. • Encouraging horticulture crops on uneven and muriate fields by adopting drip irrigation system.

Suggested way out

- Create supplementary employment opportunities in rural areas through development of rural non-farm sector.
- Focus more on rural manufacturing and establishing more specifically agro-based industries
- Accelerating public investment so that private invested also gets a boast up.
- More effective agricultural Price Policy.
- Micro irrigation and warehousing need to be the focus areas of the government investment in the state.
- Promotion of Farmer Producers Organization (FPO).
- Improved public procurement and agricultural marketing system would improve farmers income
- Adoption of hybrid and improved seeds would significantly increase crop productivity.
- One district one product (ODOP) scheme can be used to promote food processing sector in the state.
- A good marketing infrastructure, which includes marketing yard, storage facility.

Sources

- **Department of Agriculture & Cooperation Mechanisation & Technology Division**
- **Indian.govt.in**
- **NITI Aayog, New Delhi**
- **Planning Commission,Uttar Pradesh**
- **Agricultural Department , Uttar Pradesh**
- **Ministry of Agriculture & Farmers Welfare, Govt. of India.**