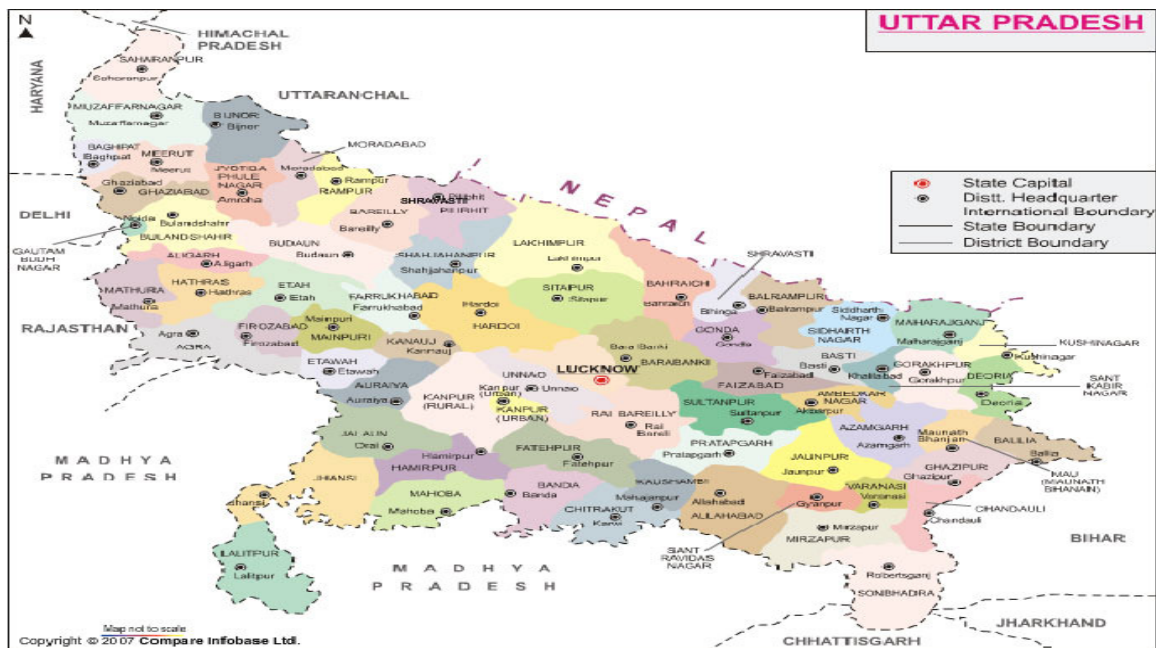


# State Agricultural Profile of Uttar Pradesh (2014-2015)

Prof. Ramendu Roy & Hasib Ahmad



2015

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## **Acknowledgement**

As per desire of the Directorate of Economics and Statistics, Department of Agriculture and Cooperation, Ministry of Agriculture, Government of India, Agricultural profile of Uttar Pradesh has been prepared by the centre. The population, GDP, per capita income, growth performance of agriculture, marketing and warehouse facilities, natural resource management, farm inputs and area, production and productivity of crops have been covered in this report. Apart from these agricultural research, education and extension services, animal husbandry and post harvest management and value addition have also been covered in this report. The latest available data have been used in preparation of agricultural profile of Uttar Pradesh. I am sure, that it would be very useful to researchers, planners, social scientists etc. to know the brief structure of agriculture sector of Uttar Pradesh.

This report is prepared by Sri. D.K. Singh (Ex. R.O.), Sri Hasib Ahmad (R.A.) and Dr. H.C. Malviya (R.A.), and Sri. Ovesh Ahmad have typed the report. The credit goes to them. I am grateful to Sri Rajesh Kumar Gupta, Joint Director of Directorate of Economics and Statistics Uttar Pradesh Krishi Bhawan, Lucknow for their full Cooperation during the preparation of the report.

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Dated: 30/09/2015

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## Agricultural Profile of Uttar Pradesh

### 1. General Information

Uttar Pradesh is situated in northern India. Nepal is International boundary of the state. The state is bordered by Rajasthan to West, Haryana and Delhi to northwest, Uttarakhand to north, Bihar to east, Jharkhand to south east and Madhya Pradesh to south west.

It covers 93,933 miles (243290 Km<sup>2</sup>). This is most populous state of India. It is the fifth largest state of India. It accounts for 6.88 percent of total area of the country. The population of the state was about 200 million as per census of 2011, which accounted for 16.49 percent of the total population of India. Uttarakhand was also a part of Uttar Pradesh till November, 2000. The state is divided into 4 divisions, namely. Western (30 districts), Eastern (28 districts), Central (10 districts) and Bundelkhand (7 districts). At present state has 75 districts, 327 tehsils, 822 blocks and 107452 revenue villages. The state is also divided into 9 agro climatic zones, 1. Tarai Region, 2. Western Plain Region, 3. Central Western Region, 4. South Western Region, 5. Central Plain Region, 6. Bundelkhand Region, 7. North Eastern Plain Region, 8. Eastern Plain Region, 9 Vindhyaachal Region.

The largest Gangetic plain region is in the north it includes the Ganges, Yamuna, Doab and the Ghaghra plains. The smaller vindhya range and plateau region is in south. The bhabhar tract gives place to terai area. The

terai runs parallel to the bhabhar in a thin strip. The entire alluvial plain is divided into three sub regions i.e. the eastern tract consisting of 14 districts. The flood and drought are common phenomena of this tract. The highest density of population is also found in this tract. On account of highest density of population, the per capita availability of land is very low in comparison to other tracts of the state. The other two regions i.e. the central and western are comparatively much better and well developed to eastern and Bundelkhand regions. The irrigation facilities are also well developed in western and central regions. The cropping intensity, production and productivity of different crops of these two regions are also found much better in comparison to other regions of Uttar Pradesh. The state has more than 32 large and small rivers, of them, the Ganges, Yamuna, Saraswati, Sarayu, Betwa and Ghaghara are larger rivers of the state. Lucknow is the capital of Uttar Pradesh, Kanpur is the economic and industrial capital of the state. Varanasi is famous of banarsi sari and also famous for handicraft goods.

Allahabad is most important place for Hindu religion due to confluence of Ganga, Yamuna and Saraswati. Agra is also internationally well recognized for Taj Mahal. Apart from these cities, Shravasti, Kushinagar, Chitrakoot, Jhansi, Meerut and Mathura are also important cities of the state. Ghaziabad and Noida are also emerging cities of the state. Agricultural and services industries are most important activities of the state economy.

**Table-1**  
**General Information Uttar Pradesh**

1	Geographical Area	Lakh Hect	240.93
2	Mandals	Numbers	18
3	Districts	Numbers	75
4	Tahsils	Numbers	327
5	Blocks	Numbers	822
6	Neyay Panchayats	Numbers	8135
7	Gram Panchayats	Numbers	51914
8	Total Revenue Villages	Numbers	107452
	A – Inhabited	Numbers	97941
	B – Unhabited	Numbers	9511

Source: Directorate of Agriculture, Govt. of U.P.

### **Population: Urban, Rural – Cultivators, Agricultural Labours and Others**

As per census 2011, the population of Uttar Pradesh was 199812 thousand of which 77.73 percent lived in rural areas followed by 22.27 percent in urban areas. The percentage of rural population of U.P. was higher than national figure of 68.84 percent. Of the total rural population of 155317 thousand male population accounted for 52.24 percent while 47.76 percent were female population in 2011 in U.P. The male population of total urban population was 52.96 percent against 47.04 percent of female population in 2011 in U.P. Of the total population of 166198 thousand in 2001 in U.P., total workers accounted for 23.67 percent. The total population of workers was 39338 thousand in 2001 in U.P. of which cultivators accounted for 46.98 percent followed by 15.14 percent, 5.32 percent, and 32.56 percent of agricultural labours, workers of industries and workers engaged in other services respectively. The density of population was 828 people per square kilometre. The sex ratio was 912 women per 1000 men in 2011. About 59

million people of the state was found below poverty line in 2004-05. About 80 percent population of Uttar Pradesh was Hindu followed by 18.4 percent of Muslims as per census of 2001. The literacy rate of the state according to 2011 census was 70 percent which was below the national average of 74 percent. The literacy rate for men was 79 percent against 59 percent for women. Hindi is the official language of the state.

**Table-1.1**

**Population**

Sl.No.	Particular	Year	Population (000) Numbers
1	Total Population	2011	199812
2	Total Male Population	2011	104481
3	Total Female Population	2011	95332
4	Total Rural Population	2011	155317
	Rural Male Population	2011	81145
	Rural Female Population	2011	74172
5	Total Urban Population	2011	44495
	Urban Male Population	2011	23566
	Urban Female Population	2011	20929
6	Cultivators (Main & marginal)	2001	22167562
	Cultivators (Rural)	2001	21754799
	Cultivator (Urban)	2001	412763
7	Agriculture Labour (Main & Marginal)	2001	13400911
	Rural Agriculture Labour	2001	12951317
	Urban Agriculture Labour	2001	469594

Source: Statistical Diary 2014, Govt. of U.P.

Agricultural Statistics at a glance 2013 Govt. of India.

Office of the Director Statistics Krishi Bhawan Govt. of U.P.



## **2. Indian Agriculture: Performance and Challenges**

### **Growth Performance of Agriculture in Uttar Pradesh**

The agriculture sector continues to predominate and contributes a large share of the state output. Agriculture is main source of livelihood to majority of the population of U.P. More than 70 percent of population U.P. directly or indirectly depend on agriculture and allied sectors. The contribution of agriculture to total SDP was 24.11 percent at constant (1999-2000) prices for 2009-10. The GSDP from agriculture and allied sector at constant (1999-2000) price was 602608 million in 1999-2000 which has gone upto Rs. 748134 million in 2009-10, thereby showing 24.15 percent increase over the period. The GDP at current prices has been estimated at Rs. 862746 crores during 2013-14. The per capita income was estimated at Rs. 19233 at constant price (2004-05) and Rs. 36250 at current price. The NSDP was Rs. 403509 crores at 2004-05 price against Rs. 760542 crores at current price.

**Table-1.2**  
**State Domestic Product 2013-14**

	Per Capita Income (At Current Prices)	36250 (in Rs.)
1	Capita Income (At 2004-05 Prices)	19233 (in Rs.)
2	Net State Domestic Product (At current price)	760542 (in Crores Rs.)
3	Net State Domestic Product (At 2004-05 price)	403509 (in Crores Rs.)
4	Gross State Domestic Product (At current price)	862746 (in Crores Rs.)

Source: State Income Account. Economics & Statistics Division State Planning Institute Govt. of Uttar Pradesh

### **Marketing**

The agricultural marketing facilities are well developed across the state. The state has 250 regulated markets in 2013-14. Apart from this, there are also

364 submarkets which are functioning across the state. About 225 rural hats are also being organized in different parts of the state. The fruits and vegetable yards, fish market yards and milk yards have also been constructed across the state to provide better facilities to the farmers to get remunerative prices of their products but their numbers are limited. A number of welfare schemes have also been introduced in the state under marketing activities. A handsome amount has been allotted under welfare schemes.

## **Marketing Activity in U.P.**

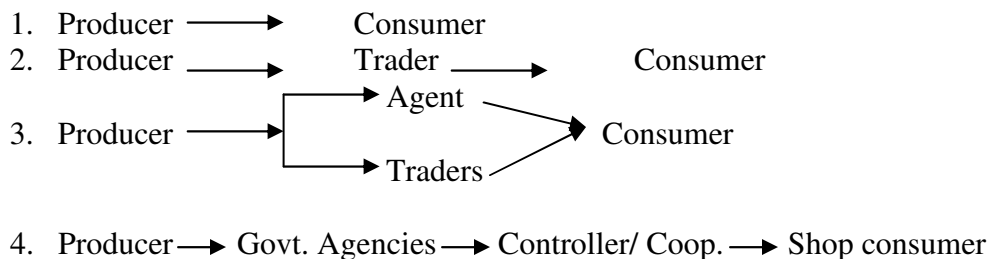
### **Welfare Schemes**

1. Farmers Help Line
2. Farmers Gift Scheme
3. Scholarship Scheme
4. Public Personal Accident Help Scheme
5. Burn Fire Accident Help Scheme
6. Procedure to find the rates on TVRS.

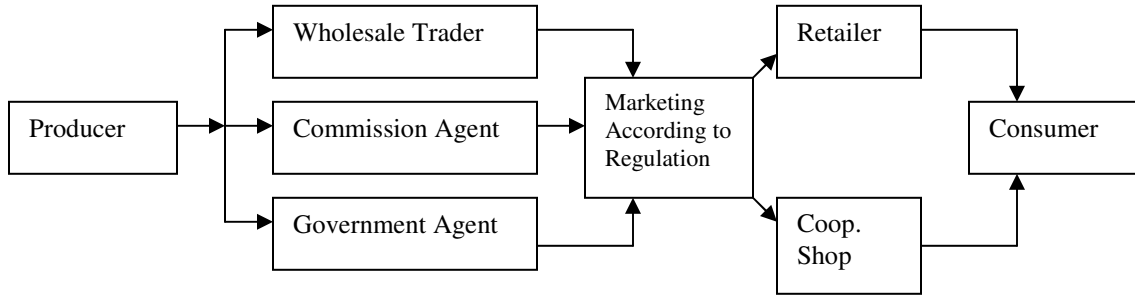
### **Culture of Marketing**

The process of Agricultural Marketing has been divided into two Parts.

#### **(A) Non-Regulated Market**



**(B) Regulated Market**



**Table-2**

**Details of Different Type of Marketing Activities in U.P. (2013-14)**

Sl.No.	Particulars	Nos.
1	Total regulated main market	250
2	Total Sub Market	364
3	Total markets including submarkets	614
4	Constructed Market Yards	208
5	Constructed Sub Market Yards	85
6	Constructed Fruit and Vegetable Yards	69
7	Constructed Fish Market Yards	05
8	Constructed Milk Yards	05
9	Constructed Flower Market Yards	02
10	Rural Hats	225
11	Rural Godowns	238
12	Link Roads	13137 Km

Source: State Agriculture Marketing Board, Kisan Mandi Bhawan, Lucknow, Uttar Pradesh.

**Warehousing**

FCI, SWC, CWC are main agencies which are involved in storing huge quantity of food-grains of Uttar Pradesh. Out of total share capacity of 455 agencies during 2012-13, 52.79 percent is stored by FCI followed by 36.32 percent and 10.89 percent by SWC and CWC respectively.

**Table-2.1****Agency-wise number and Capacity of Storage in U.P. 2012-13**

Sl. No.	Agency	No.	Capacity in M.T.	%
1	Food Cooperation of India	260	4750086	52.79
2	U.P. State Warehousing Corporation	149	3267445	36.32
3	Central Warehousing Corporation	46	979867	10.89
4	Total	455	8997398	100.00

**3. Natural Resource Management****Land Use**

The total reporting area of the state was 241.70 Lakh hectares of which 68.54 percent under cultivation in 2012-13. Of the total reporting area of 241.70 Lakh hectares, land put to non agricultural use accounted for maximum share, being 11.27 percent followed by 6.86 percent, 4.97 percent, 2.22 percent and 1.98 percent, of forest, current fallow, barren & un-culture land and barren and un-culturable land respectively in 2012-13 . The percentage of net area sown to reporting area in Uttar Pradesh has been decreasing continuously due to fast expansion of industrialization and urbanization in the state.

**Table-3.1  
Land Utilization in U.P. 2012-13**

( Area in Lakh Hect)

Sl.No.	Particulars	2012-13	%
1	Reporting Area	241.70	100.00
2	Forest	16.58	6.86
3	Barren & Un-culturable Land	4.79	1.98
4	Land put to Non Agriculture Uses	28.93	11.27
5	Culturable Waste Land	4.23	1.75
6	Permanent Pastures and others grazing land	0.65	0.27
7	Land under Miscellaneous Trees, crops and groves etc.	3.50	1.45
8	Current Fallows	12.01	4.97
9	Fallows Land (other than current fallow)	5.37	2.22
10	Net Area Sown	165.65	68.54
11	Area Sown More than Once	92.57	38.30
12	Gross Cropped Area	258.22	--

Source: Statistical Diary, Govt. of Uttar Pradesh.

## **Soil Structure and Texture**

Uttar Pradesh is very broad state of India. Therefore, the soil texture varies from district to district. There are different kinds of soils across the state. There is a wide variation in the characteristics and properties of the soil in the state. However, on the basis of certain common features, the soil of the state is divided into following broad groups.

Loam soil, Sandy loam, sandy soil, alluvial soil, rocky soil, stoney soil, saline and alkalin clay loam etc.

## **Major Crops – Area, Production and Yield**

The rice, wheat, bajra, barley and maize are important cereal crops in the state. Out of total GCA, 258.22 lakh hectares during 2012-13 in U.P. wheat accounted for highest share being 37.90 percent followed by 22.83 percent, 3.57 percent, 2.68 percent, 0.69 percent and 0.64 percent of rice, bajra, maize, jowar and barley respectively. Among the pulses gram, urd, arhar and moong are major pulses in U.P. Out of total GCA of 258.22 Lakh hectares during 2012-13 in U.P. gram had occupied maximum share being 2.38 percent followed by 2.11 percent, 1.30 percent and 0.32 percent of urd, arhar and moong respectively.

Mustard / lahi, groundnut, til, sunflower, soyabean are important oilseed crops of the state. Of the GCA mustard had occupied maximum share being 3.05 percent followed by 0.34 percent and 1.63 percent of groundnut and other oilseeds respectively during the same period.

The average production of wheat was 32.17 qtls per hectares in 2012-13 while the average production of barley, rice, bajra, maize and jowar was 28.25 qtls., 24.53 qtls., 19.52 qtls., 18.53 qtls., and 13.50 qtls. per hectare during 2012-13 in U.P. The average production of gram, arhar, moong and urd was 11.25 qtls.,

10.47 qtls., 5.06 qtls. and 6.63 qtls., per hectare during 2012-13. The average production of mustard was 12.63 qtls. followed by 10.15 qtls. of groundnut per hectare during 2010-11 in U.P. The over age production of all crops has registered a positive growth during 2012-13 in U.P.

**Table-3.2**  
**Major Crops-Area, Production and Yields (Year 2012-13)**

(Area in Lakh Ha. Production in Lakh M.T., Yield Qtl./ha.)

Sl.No.	Name of crops	Area	Production	Yield
<b>Kharif</b>				
1	Rice	58.96 (22.83)	144.56	24.53
2	Maize	6.92 (2.68)	12.81	18.53
3	Bajra	9.22 (3.57)	18.00	19.52
4	Jowar	1.79 (0.69)	2.42	13.50
5	Ground nut	0.88 (0.34)	0.08	10.15
6	Sugarcane	21.59 (8.36)	1343.46	624.63
7	Total Pulses (Kharif)	0.64 (0.25)	3.88	4.18
8	Total Oilseed (Kharif)	4.21 (1.63)	1.78	6.52
<b>Rabi</b>				
1	Wheat	97.88 (37.90)	314.76	32.17
2	Barly	1.65 (0.64)	4.34	28.25
3	Gram	6.14 (2.38)	6.91	11.25
4	Total Oilseed	6.72 (2.60)	6.82	12.31
5	Total Pulses	17.43 (6.75)	0.67	4.43
6	Potato	5.40 (2.09)	131.68	243.87
	Gross Cropped Area (GCA)	258.22		

Source: Directorate of Agriculture, U.P.

Note: The figures in brackets are percentage to GCA.

## **Cropping Intensity**

The cropping intensity was 155.89 percent during 2012-13. Paddy, wheat, bajra and barley are main cereal crops of the state. Mustard, linseed, sesame and groundnut are main oilseed crops. Gram, pea, masoor and arhar are the major pulses of the state. Of the total GCA of 258.22 Lakh hectares, cereals accounted for 68.66 percent followed by 7.39 percent pulses and 6.81 percent oilseeds respectively during 2012-13. The productivity per hectare of cereals was 28.14 qtls followed by 9.97 qtls and 9.70 qtls of pulses and oilseeds respectively during 2012-13. Sugarcane, potato, vegetables are main cash crops of the state.

**Table-3.3**  
**Cropping Intensity, Uttar Pradesh**

Sl.No.	Particulars	2010-11	2011-12	2012-13
1	Cropping Intensity	154.37	154.78	155.89

Source: Directorate of Agriculture, Uttar Pradesh.

## **Land Ceiling Limit**

After abolition of Zamindari Act in Uttar Pradesh, the land ceiling limit had been fixed across the state. On the recommendation of Agrarian Reform Committee, the land ceiling limit had come into force in 1952 in Uttar Pradesh. The land ceiling limit in Uttar Pradesh was based on availability of irrigation facilities. The 18 acres land ceiling limit was fixed in irrigated land with two crops while 27 acres land ceiling limit was fixed in irrigated land with one crop. In case of dry land regions, 45 acres ceiling limit was fixed in Uttar Pradesh.

**Table-3.4**  
**Land Ceiling Limit in Uttar Pradesh**

<b>Irrigated Land with Two Crops</b>	<b>Irrigated Land with One Crop</b>	<b>Dry Land</b>
18	27	45

Note: 1 Acre= 0.404686 Hect

Source:.. Agricultural Statistics at a glance 2012 Govt, of India.

### **Operational Land Holding**

The distribution of size of holdings is very much uneven in the state out of total operational holdings of 23325 thousand, the marginal holding accounted for 79.45 percent followed by 13.02 percent, 5.71 percent, 1.71 percent and 0.11 percent of small, semi medium, medium and large holdings respectively during 2010-11.

**Table-3.5**  
**Operational Land holding( 2010-11) in Uttar Pradesh**

<b>Sl.No.</b>	<b>Size Group</b>	<b>Area Hect. In 000</b>	<b>Nos. In 000</b>	<b>Size of holding (Hect)</b>
1	Less than (1.00 Hect.)	7171 (40.69)	18532 (79.45)	0.39
2	Small (1-2 Hect.)	4243 (24.08)	3036 (13.02)	1.40
3	Semi Medium (2-4 Hect.)	3629 (20.59)	1334 (5.71)	2.72
4	Medium (4-10 Hect.)	2199 (12.48)	398 (1.71)	5.52
5	Large (10 and above)	380 (2.16)	25 (0.11)	15.00
6	Total	17622 (100.00)	23325 (100.00)	0.76

Source:.. Agricultural Statistics at a glance 2012 Govt. of India.

Note: Figures in brackets are percentage to total



## **Water**

Water is the gift of nature. Rainfall is the main source of water resource. Uttar Pradesh is much fortunate to get better rainfall in comparison to most of the states of the country. Water resource of the state is classified into two groups, namely – Surface water resource and ground water resource. The availability of ground water in Uttar Pradesh was 68575 million cubic meter of which 72.18 percent has been utilized upto 31.03.2009

The following major irrigation and multi purpose projects have been constructed in Uttar Pradesh to provide the better supply of surface water through canals.

I. Sarda Sahayak, II. Ramganga, III. Gandak Project (U.P. & Bihar)

## **Weather and Climate**

A humid temperate climate is found across the state. The state also experiences four seasons. The winter in January and February is followed by summer between March and May. The monsoon between June and September. The temperature of the state varies between 0<sup>0</sup> C and 50<sup>0</sup> C across the state. The mean annual rainfall ranges from 650mm in south west corner of the state to 1000mm in the eastern and south eastern parts of the state. The statement of total rainfall occurred in U.P. in monsoon season is presented in Table-3.6.

**Table-3.6**

**Statement of Rainfall in “MM” in U.P. in Monsoon Season 2014-15**

<b>Total Normal Rainfall June to May %</b>	<b>Total Rainfall June to March %</b>	<b>% to its Normal</b>
947.40	947.40	64.50

Source: Directorate of Agriculture, Uttar Pradesh.

**4. Farm Inputs: Requirement & Availability**

**Seeds**

The quality of seed of crops plays vital role in increasing the production and productivity of crops. Hence, the state government gives the top priority to ensure the proper supply of improved seeds of different crops to the farmers before the sowing of the crops. The availability of seed of kharif crops was 1100081 qtls in 2014-15 against target of 1039565 qtls which was more than the target. The availability of seeds of paddy, maize, jowar, urd, moong, till, soyabean and capas was more than the target in 2014-15. However, the availability of seed of Bajra, arhar and groundnut was less than the target during same period. Except of Arhar, the availability of seeds of moong and urd was more than the target. The distribution of seeds of kharif crops was less than the availability of seed of the most of kharif crops in 2014-15.

**Table-4.1**  
**Target, Availability & Distribution Certificate Seed 2014-15**  
**By Different Agency, Agriculture Cop. U.P. Agro, T.D.C., N.S.C., Krifco, I.F.F.D.C.,**  
**Private and others.**

(Quantity in Qtls.)

Sl.No.	Crops	Target	Availability	Distribution
<b>Kharif</b>				
1.	Paddy	840000	885351	827567
2.	Maize	65790	77774	65384
3.	Jowar	11300	11324	9296
4.	Bajra	24200	23487	17389
5.	Urd	35560	37351	31554
6.	Moong	6300	6882	5732
7.	Arhar	15840	15571	13103
8.	Til	3565	4415	3818
9.	Sunflower	750	498	409
10.	Groundnut	30360	29442	23635
11.	Soyabean	5000	7005	5129
12.	Capas	900	981	773
	<b>Total</b>	<b>1039565</b>	<b>1100081</b>	<b>1003787</b>
<b>Rabi</b>				
1.	Wheat	4061892	4077427	3795838
2.	Barley	46600	41652	36178
3.	Gram	168800	158636	155266
4.	Pea	135300	141345	139062
5.	Lentil	82360	80278	79210
6.	Rai/Mustard	22730	23899	23385
7.	Toria	12325	10879	10612
8.	Linseed	3275	3288	2906
	<b>Total</b>	<b>4533282</b>	<b>4537403</b>	<b>4242456</b>

Source: Directorate of Agriculture Seed & Farm Division Krishi Bhawan, Lucknow, U.P.

The target of total seeds of rabi crops was fixed at 4533282 qtls in 2014-15 of which 100.09% was available. It shows that availability of seed of rabi crops was higher than the target. The availability of seed of wheat, pea, mustard and linseed was higher than the target, while the availability of seed of gram, lentil, barley and torai was less than the target in 2014-15. The distributed quantity of seed of rabi crops was also found less than

availability of seeds in 2014-15. It shows that there was no shortage of seeds of most of crops of kharif and rabi seasons during 2014-15 in Uttar Pradesh.

### **Fertilizer Distribution in 2014-15**

The fertilizers are key inputs of crops. Since the introduction of HYV seeds of Paddy, wheat and other crops, the consumption of fertilizers has been increasing year by year in the state. The target of nitrogenous fertilizer had been fixed at 33.11 lakh M. Tonnes during 2014-15 of which 81.36% was available. It shows that there was no shortage of nitrogenous fertilizers in the state during 2014-15. Against this, there was huge shortage of phosphatic and potassic fertilizers in Uttar Pradesh during corresponding period. The achievement of phosphatic and potassic was 55.36% and 48.19% against target of 11.85 and 1.20 lakh M. Tonnes respectively during 2014-2015.

**Table-4.2**

#### **Fertilizer Distribution 2014-15**

(Qty. in Lakh M. Tones)

Sl. No.	Years		Nitrogen	Phosphatic	Potasic	Total
1	2013-14	Target	33.89	12.10	2.96	48.95
		Achieve	6.97	6.97	1.07	37.35
2	2014-15	Target	33.11	11.85	2.49	47.45
		Achieve	26.94	6.56	1.20	34.70

Source: Directorate of Agriculture Fertilizer Division Krishi Bhawan, Lucknow, U.P.

### **Pesticides Distribution in Kharif 2014-15**

The HYV and hybrid of different crops are much susceptible to pests and diseases than traditional varieties of crops. The demand of pesticides,

fungicides, weedicides has been increasing since the commencement of green revolution in Uttar Pradesh. The state government had fixed target of 8360.00 M. tonne to distribute the different types of pesticides kharif during 2014-15. The availability of pesticides against targeted quantity was 13241.00 M. Tonnes during Kharif 2014-15 in Uttar Pradesh. It shows that there was no shortage of pesticides, fungicides, weedicides etc. during kharif 2014-15 in U.P. However, the quantity of different pesticides was less than availability quantity in kharif 2014-15 in U.P.

**Table-4.3**  
**Pesticides Distribution by different agencies Agriculture, Cooperative, U.P. AGRO, Private sellers in Kharif 2014-15**

(M.Tonnes/K.litre)				
Sl.No.	Name of Pesticides	Target	Availability	Distribution
1	Pesticides Powder	4100.00	5905.00	4249.43
2	Pesticide liquid	440.00	1343.08	850.28
3	Fungicide	700.00	1457.41	873.70
4	Weedicide	1260.00	2528.13	1950.09
5	Rat killer	60.00	109.15	65.99
6	Bio-pesticide	1800.00	1898.27	1323.39
	<b>Total</b>	<b>8360.00</b>	<b>13241.04</b>	<b>9312.89</b>

Source: Directorate of Agriculture, Pesticides Division Krishi Bhawan Lucknow U.P.

### **Pesticides Distribution in Rabi 2014-15**

The State Government had fixed target of 8770.00 M. Tonnes to distribute the different types of pesticides during Rabi 2014-15. The availability of pesticides against target quantity was 4745.46 M. Tonnes during Rabi 2014-15 in U.P. which was about double. The distributed quantity of total pesticides was 22.79% less than availability in U.P. during same year.

**Table-4.3**

**Pesticides Distribution by different agencies Agriculture, Cooperative, U.P. Agro,  
Private sellers in Rabi 2014-15**

(M.Tonnes/K.litre)

Sl.No.	Name of Pesticides	Target	Availability	Distribution
1	Pesticides Powder	4120.00	6514.26	4909.72
2	Pesticide liquid	460.00	1119.61	753.45
3	Fungicide	720.00	1557.17	1152.33
4	Weedicide	1280.00	2891.59	2329.11
5	Rat killer	90.00	123.38	84.65
6	Bio-pesticide	2100.00	2539.46	2156.11
	Total	8770.00	14745.46	11385.37

Source: Directorate of Agriculture, Pesticides Division Division Krishi Bhawan Lucknow Uttar Pradesh

### **Farm Machinery and Equipment**

The mechanizing in crop farming is also much prevalent in Uttar Pradesh. The use of tractors, seed drill, rotaveters, threshers, cultivators etc are very much common for agriculture and allied activities in Uttar Pradesh. Most of agricultural operations and activities are mostly performed by tractors in Uttar Pradesh. The diesel and electric tube-wells are being largely used across the state. The Zero Til Multi crop Planter and zero til-seed drill were very less in number in U.P. upto 2014-15.

**Table-4.4**  
**Target and Achievement of Farm Machinery and Equipment Distribution 2014-15**  
**(In Number)**

Sl. No.	Name of Machinery & Implements	Target	Achievement
1	Seed drill	2200	1171
2	Zero Til Multi crop Planter	192	2
3	Rotaveter	5018	4730
4	Leeser land Labler	385	280
5	Pump-set	46042	17900
6	Zero til –Seed drill	490	62
7	Seed-cum-fertilizer drill	0	263
8	Multi crop bresar	470	355
9	Power weeder	50	4
10	Multi crop planter	52	0
11	Paddy breser	150	72
12	Vijler	80	2
13	Spikler set	2120	10
14	Rizfaro planter	25	0
15	Power spreyer	1065	237
16	Tractors movement spreyer	152	5
17	Power driven	3305	3664
18	Human driven	9062	10020
19	Important agriculture implement	550	538
20	Total	71408	39135

Source: Directorate of Agriculture, Farm Machinery Division Govt. of Uttar Pradesh

**Table-4.4A**  
**Target and Achievement of Farm Machinery and Equipment Distribution 2014-15**  
**(In Number)**

Sl.No.	Name of Machinery & Implements	Target	Achievement
1	Konoreeder	190	1
2	Hand spryer	1449	291
3	Drum seeder	3020	81
4	Foot sprayer pump	0	0
5	Water cating pipe	0	438
6	Mabaile Rain Gun	1100	30
7	G I	44186	43102
8	Seed Tritement Drum	419	112
	Total	50364	44055

Source: Directorate of Agriculture, Farm Machinery Division Govt. of Uttar Pradesh

## Irrigation by Different Sources

The tube wells and canals are main sources of irrigation in Uttar Pradesh. Out of total net irrigated area by different sources being 139.29 lakh ha. in 2012-13. Private tube-wells accounted for 67.11% followed by 18.24%, 10.22% and 4.43% for canal other sources and respectively in 2012-13.

**Table-4.5**  
**Irrigation by Different Sources**

Sl. No.	Source	Qty.	2011-2012	2012-2013
<b>1.</b>	<b>Total Swon Area</b>	<b>Lakh Hect.</b>		
	A. Kharif	Lakh Hect.	118.15	118.30
	B. Rabi	Lakh Hect.	129.42	129.64
	C. Summer	Lakh Hect.	9.33	9.97
	D. Sugarcane	Lakh Hect.	0.39	0.30
<b>2.</b>	<b>Total Irrigated Area</b>	<b>Lakh Hect.</b>		
	A. Kharif	Lakh Hect.	75.54	76.82
	B. Rabi	Lakh Hect.	115.20	116.20
	C. Summer	Lakh Hect.	8.27	8.89
<b>3.</b>	<b>% Irrigated Area</b>	<b>Lakh Hect.</b>		
	A. Kharif	Lakh Hect.	63.94	64.94
	B. Rabi	Lakh Hect.	89.01	89.67
	C. Summer	Lakh Hect.	88.64	89.57
<b>4.</b>	<b>Irrigated Area (Net)</b>	<b>Lakh Hect.</b>	138.09	139.29
	A. Canals	Lakh Hect.	25.55	25.41 (18.24)
	B. Govt. Tube-wells	Lakh Hect.	4.90	6.18 (4.43)
	C. Private Tube-wells	Lakh Hect.	96.71	93.48 (67.11)
	D. Others sources	Lakh Hect.	10.93	14.22 (10.22)

**Source:** Director Agriculture Statistics Krishi Bhawan Lucknow, Govt. of Uttar Pradesh

**Note:** Figures in brackets are percentage to Net Area Irrigated



## **Labour and agricultural wages**

The wage rate per male labour was Rs.161 per day against Rs. 100 of a female labour in 2014-15 in U.P. However, it varies from operation to operation. The wage rate of male and female was higher in western U.P. than other regions of U.P. There was quite shortage of labours during transplanting, harvesting and threshing of crops in U.P.

**Table-4.6**  
**Labour and Agriculture Wages (2011-12)**

<b>Sl.No.</b>	<b>Particulars</b>	<b>Rs./ Per Labour (minimum wages)</b>
1	Male (Adult)	161

Source: Labour Section – 3 Govt. of U.P.

## **Credit and Insurance**

The distribution crop loan for Kharif and rabi crops during 2014-15 was 81.43% against the targeted crop loan in U.P.

A total number of KCC issued by different banks in U.P. upto 31<sup>st</sup> March 2015 was 41.32 Lakh of which commercial banks accounted for 86.69% followed by 13.31% cooperative banks.

**Table-4.7**  
**Statement of Crops Loan during 2014-15 upto 31<sup>st</sup> March 2015**

<b>Banks</b>	<b>Crop Loan Target (in Rs. crore)</b>	<b>Crop Loan Distribution (in Rs. Crore)</b>	<b>Distribution in percentage</b>
Cooperative	7464.00	6184.18	82.85
Commercial	64050.72	52048.49	81.26
Total	71514.72	58232.67	81.43

Source: Directorate of Agriculture, Govt. of Uttar Pradesh. **Crop Insurance in 2011-12**

The total insured area of Kharif and rabi crops was 20.29 Lakh Hect. in 2014-15 in Uttar Pradesh. The compensation amount was estimated at Rs. 581.65 crore which had been received by 9.82 Lakh farmers of U.P. during 2014-15.

**Table-4.7A**

**Numbers of Kisan Credit Cards (KCC) issued by different banks in U.P. 2014-15**

Sl.No.	Name of Bank	KCC Target in Lakh	KCC Achievement in Lakh	% Distribution
1.	Cooperation Banks	5.01	5.50	109.78
2.	Commercial Banks	36.20	35.82	98.95
	Total	41.21	41.32	100.27

Source: Directorate of Agriculture, Govt. of Uttar Pradesh.

**Table-4.7 B**

**Detail of Crop Insurance in 2014-15**

Crop Seasons	No. of Farmers (in Lakh)	Insured Area (In Lakh Hect.)	Insured Money (In Crore)	No. of farmers benefited (in lakh)	Subsidy by Govt. of India (in crore)	Subsidy by state Govt. (in crore)	Premium by farmers (in crore)	Total premium (in crore)	Compensation (in crore)
Kharif	7.36	10.17	2465.50	3.22	66.47	66.47	80.41	213.35	156.26
Rabi	10.31	10.12	2761.00	6.60	56.35	56.35	97.94	210.56	425.39
Total	17.67	20.29	5226.50	9.82	122.82	122.82	178.35	423.91	581.65

Source: Directorate of Agriculture Govt. of Uttar Pradesh

## **5. Agricultural Research, Education and Extension**

- Adequate funding for research and education
- Development of area specific crop varieties
  - Biotic & a-biotic specific crop varieties
  - Heat tolerant varieties in Wheat.
  - Suitable short duration HYV in Paddy, Pulses & Oilseeds.

- Innovation mechanism for transfer of Technology
- Development of Pests and diseases forecasting system.
- Development of cost effective farm tools for small and marginal farmers

Extension services, Agricultural Research etc. in Uttar Pradesh is well illustrated in chart.

**Table-5**  
**Existing Extension Services in Uttar Pradesh**

<b>Public Sector</b>	<b>Private Sector</b>	<b>Other Sources</b>
<b>Departmental Extension system</b> - Agriculture Dept. - Horticulture - Animal Husbandry, Dairy - Sericulture - Fisheries ■ Agriculture Uni.-6 • KVK-67 ■ KGK-19 ■ Central Research Ins. - NBRI,IIVR,IIPR,CIPR - Seed Technology Center -CSSRI ■ PACS	<b>Fertilizer Companies</b> - IFFCO Krishi Sewa Kendra - KRIBHCO Sewa Kendra - Indogulf Krishi Sewa Kendra - Tata Kisan Sansar ■ Seed Supplier companies - Pesticide companies ■ Hariyali, Khushali, ■ Agriculture Marketing Ins. -E- Chaupal ■ Mobile Extension Services - IFFCO, Cane Dept., ICT, IFFDC	<b>S Print &amp; Electronic Media &amp; Danik Jagran (Khet, Khaliyan, ATMA Sandesh)</b> - Danik Hindustan (Kisan Mela) ■ Aakashvani (Chaupal) ■ Doordarshan (Krishi Darsan/ Anndata) ■ NABARD ■ Farmers organization ■ Farmers club, ■ Farms School, Agri business, Agri Clinic ■ Kisan Vidhyalaya, Self Help Group, Farmers Group

Uttar Pradesh has four State Agriculture Universities (SAUs) with their 33 various research stations, 1 Veterinary University, 1 Deemed Agricultural University, 25 Non-SAUs Agriculture Colleges, 28 Krishi Vigyan Kendras

(KVKs), 24 Krishi Gyan Kendras (KGKs), 10 Indian Council of Agriculture Research (ICAR) Institutes, one National Bureau, 2 ICAR Project Directorates, 4 National Research Centres (NRC), 12 Regional Research Stations (RRS), 5 Institutes of Council of Scientific and Industrial Research (CSIR), 14 All India Co-ordinated Research Projects (AICRP) units, one Zonal Co-ordinating Unit and 6 other Agricultural Research and Education Centres are running in the State.

### **State Agricultural Universities (SAUs)**

State Agricultural Universities has established on Land Grant Pattern of United State of America under State Agricultural University Act, 1958. Current status of education, research and extension facilities in SAUs is as follows:-

**Table-5.1**

Sl. No.	SAU	Year of Establishment	Area Jurisdiction		Agro-Climatic Zones	No. of Regional Research Centres	Extension Centres	
			Districts	Divisions			KVK	KGK
1.	C.S. Azad University of Agriculture and Technology, Kanpur	1975	27	Agra, Kanpur, Jhansi, Lucknow, Chitrakoot-Dham	4,5 & 6	22	8	8
2.	N.D. University of Agriculture and Technology, Kumarganj, faizabad	1975	22	Faizabad, Gorakhpur, Azamgarh, Varanasi, Basti, Devipatan	7 & 8	7	10	9
3.	S.V.b. Patel University of Agriculture and Technology, Modipuram, Meerut	2000	15	Meerut, Saharanpur, Moradabad, Bareilly	1, 2 & 3	4	9	6

4.	Banda University of Agriculture and Technology Banda, U.P.	2010	7	Banda, Chitrakoot, Mahoba, Hamirpur, Jhansi, Lalitpur and Jalaun	--	--	--	--
5.	Allahabad Agriculture Deemed University, Naini, Allahabad	2000	7	Allahabad, Mirzapur	8 & 9	--	1	1

## **6. Animal Husbandry**

The total population of live stock was 68715147 in 2012 in U.P. of which buffaloes accounted for 44.57 percent followed by 28.46 percent, 22.68 percent and 1.97 percent of cattle, goats and sheep respective. Out of total population of bovines of 50182401 lakh in 2012 in U.P. the buffaloes accounted 61.03 percent followed by 38.97 percent of cattle. The total production of milk was 241.939 lakh MT in Uttar Pradehs during 2012 of which 69.46 percent was accounted for buffaloes followed by 25.38 percent and 5.16 percent cows and goats respectively. The veterinary support of live stock is still inadequate in state. The population of live stock is maximum in Uttar Pradesh among all the states of the country, but veterinary hospitals, stock centers, artificial insemination centers etc. are very less in number for treatment of livestock. The number of veterinary hospital was 2200 during 2011-12 in the state while number of veterinary dispensary was 2843 followed by 5043 A.I. centres during corresponding period. Most of posts of veterinary doctors in the hospitals are still vacant. The veterinary support of Uttar Pradesh is very much poor in comparison to other states of India. The

total production of fish in U.P. was 3067 thousand qtls. during 2006-07 which has increased to 4297 thousand qtls. during 2011-12 thereby showing 40.10 percent increase over the period. While the fish production has decreased in 2013-14. The productivity of fish was 4041 kg per hectare in U.P. during 2014-15.

**Table-6.1**  
**Animal Husbandry**

Sl.No.	Particulars	Total Population in Lakh
		2011-12
1	Cattle	19557067 (28.46)
2	Buffaloes	30625334 (44.57)
3	Sheep	1353653 (1.97)
4	Goats	15585615 (22.68)
5	Pigs	1334392 (1.94)
6	Other Live Stock	259086 (0.38)
7	Total Live Stock	68715147 (100.00)

Source: Directorate of Animal Husbandry, Uttar Pradesh.

Note: Figures in brackets are in % to total live stock

**Table-6.2**  
**Infrastructural Facilities in Animal Husbandry in Uttar Pradesh**

(Figures in No.)

Years	No. of Hospital	Vet. Dispensary	A.I. Centers	Sheep & Wool Centre	Poultry Breeding Farms	Pig Breeding Farms	Semen cal. centres
2012-13	2200	2843	5043	180	13	8	3
2013-14	2200	2843	5043	180	13	8	3

Source: Directorate of Animal Husbandry, Govt. of Uttar Pradesh

**Table-6.3**  
**Animal treated by Animal Department in Uttar Pradesh**

(Figures in Lakh)

<b>Years</b>	<b>Animal Treated (in thousand)</b>	<b>Total Vaccination (in thousand)</b>	<b>Artificial Insemination Cow (in thousand)</b>	<b>Artificial Insemination Buffaloes (in thousand)</b>	<b>Total A.I.</b>
2012-13	30172	76283	3783	2653	6436
2013-14	31912	69214	4166	2968	7134

Source: Directorate of Animal Husbandry, Govt. of Uttar Pradesh

**Table-6.4**  
**Dairy in Uttar Pradesh**

<b>Milk Production</b>	<b>2012-13</b>
Milk (Thousand Ltrs.)	120497
Butter (Kg.)	385630
Ghee (Kg.)	593930
Others (Kg.)	1833060

Source: Department of Dairy Development Uttar Pradesh

**Table-6.5**  
**Growth of Fisheries in Uttar Pradesh**

(000 qtls.)

	<b>Fish Production</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
2	Department	11	13	15	13
3	Other	4164	4284	4482	4631
	Total	4175	4297	4497	4644

Source: Directorate of Fisheries Govt. of Uttar Pradesh

**Table-6.6**  
**Total No. of Ponds (Village Panchayat), Area, Production & Productivity of Fish in Uttar Pradesh 2014-15**

<b>Sl. No.</b>	<b>Particulars</b>	<b>No.</b>	<b>Area (Hect.)</b>	<b>Production (M. Tonnes)</b>	<b>Productivity Kg./Hect.</b>
1	Ponds	176548	135124.87	494265	4041

Source: Directorate of Fisheries Govt. of Uttar Pradesh

**Table-6.7**

**Egg, Wool and Meat Production in Uttar Pradesh 2013-14**

Sl. No.	Particulars	2011-12	2012-13	2013-14
1.	Meat Production (000 Tonnes)	956	1137	1221
2.	Wool Production (000 Kg.)	1420	1456	1473
3.	Egg Production (Lakh kg.)	--	--	1261

Source: Department of Animal Husbandry Govt. of Uttar Pradesh

The meat production in U.P. was only 956 thousand tones in 2011-12 which has increased to 1221 thousand tones in 2013-14 showing 27.72 percent increase over the period. The wool production has also increased by 3.73 percent during corresponding period.

## **7. Post Harvest Management and Value Addition**

The major portion of production of crops goes waste during threshing, winnowing, transporting and storing of food-grains. It has been roughly estimated that 4 to 10 percent of total production of food-grains goes waste during post harvest of crops. The maximum quantity of food-grains goes waste during the storage. The reasons of losses during storage of food-grains were lack of proper storage facilities at farm level and lack of scientific knowledge of proper technique of storage of food-grains. The farmers of U.P. generally used traditional approach to store the food-grains. Now the farmers have been using steel bins, pucca structures etc. to store the food-grains. The pesticides and fungicides are also used by well to do farmers. The flour mills, rice mills, pulse mills, oil mills etc. are available in sufficient numbers across the state to process the wheat, rice, pulses and oilseeds. However, the processing units of horticultural crops have not been



established as per requirement of the state. Therefore, the huge quantity of vegetables, fruits, flowers etc. goes waste in every day in Uttar Pradesh. Most of sugarcane mills are not functioning properly in the state. Most of them are sick. The cold storages are also not in sufficient numbers to store the production of potato, vegetable and fruits of Uttar Pradesh.

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