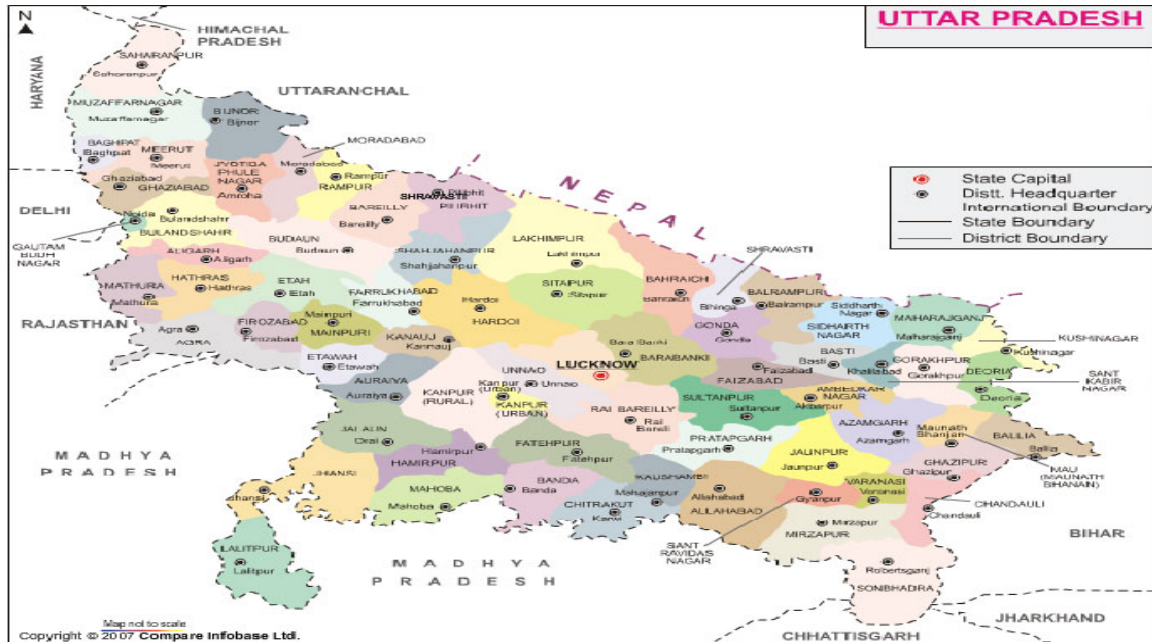


# State Agricultural Profile of Uttar Pradesh (2011-2012)

Prof. Ramendu Roy & Hasib Ahmad



2013

Agro-Economic Research Centre  
University of Allahabad  
Allahabad-211002

## **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.), Smt. N. Nigam and Sri. Ovesh Ahmad have typed the report. The credit goes to them. I am grateful to Sri Gupta, Joint Director of Directorate of Economics and Statistics Uttar Pradesh Krishi Bhawan, Lucknow for their full Cooperation during the preparation of the report.

Agro-Economic Research Centre  
University of Allahabad  
Allahabad

(Ramendu Roy)  
Prof. & Hony. Director

Dated: 11/05/2013

## **Agriculture Profile Contents**

	<b>Particulars</b>	<b>Page No.</b>
	General Information	1
	Population	2 – 3
	Indian Agriculture	4 – 6
	Natural Resource Management	7 – 10
	Farm Inputs: Requirements, Availability & Price	11 – 17
	Major Crops: Area, Production & Yield	18 – 19
	Agricultural Research, Education and Extension	20
	Animal Husbandry, Dairying & Fisheries & Growth	21 – 22
	Post Harvest Management and Value Addition	23
	References	23

## List of Table

<b>Table No.</b>	<b>Title of Tables</b>	<b>Page No.</b>
Table-1	General Information	2
Table-1.1	Population	3
Table-1.2	State Domestic Product 2011-12	4
Table-2	Details of Different Type of Marketing Activities in U.P.	6
Table-2.1	Agency-wise number and Capacity of Storage in U.P. 2010-11	7
Table-3.1	Land Utilization in U.P. 2010-11	8
Table-3.2	Type of Soils	8
Table-3.3	Cropping Intensity in Uttar Pradesh	9
Table-3.4	Land Ceiling Limit in Uttar Pradesh	9
Table-3.5	Operational Land holding (2010-11) in Uttar Pradesh	10
Table-3.6	Statement of Rainfall in “MM” in U.P. in Monsoon Season 2011-12	11
Table-4.1	Seeds, Target, Availability & distribution of certified Seed 2011-12	12
Table-4.2	Fertilizer Distribution in 2011-12	13
Table-4.3	Pesticides Distribution in 2011-12	14
Table-4.4	Farm Machinery and Equipment in 2007-08	14
Table-4.4A	Farm Machinery and Equipment Distribution in 2011-12	15
Table-4.5	Irrigation by Different Sources	16
Table-4.6	Labour and Agriculture Wages (2011-12)	17
Table-4.7	Statement of Crops Loan in 2011-12	17
Table-4.7A	Numbers of Kisan Credit Cards (KCC) issued by different banks in U.P. upto 31 <sup>st</sup> March 2012	18
Table-4.7B	Detail of Crop Insurance in 2011-12	18
Table-5	Major Crops-Area, Production and Yields (Year 2011-12) (Tentative)	19
Table-7.1	Animal Husbandry	21
Table-7.2	Infrastructural Facilities in Animal Husbandry in Uttar Pradesh	22
Table-7.3	Animals treated by Animal Husbandry Department in Uttar Pradesh	22
Table-7.4	Dairying in Uttar Pradesh	22
Table-7.5	Growth of Fisheries in Uttar Pradesh	22

## 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, 313 tehsils, 822 blocks and 107452 revenue villages. The state is also divided into 9 agro climatic zones, 1. Terai 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 Vindhya Range 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**

1	Geographical Area	Lakh Hect	240.93
2	Mandals	Numbers	18
3	Districts	-do-	75
4	Tahsils	-do-	313
5	Blocks	-do-	821
6	Neyay Panchayats	-do-	8135
7	Gram Panchayats	-do-	51914
8	Total Revenue Villages	-do-	107452

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 199581 thousand of which 77.72 percent lived in rural areas followed by 22.28 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 155111 thousand male population accounted for 52.25 percent while 47.75 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 908 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	Numbers
1	Total Population	2011	199581477
2	Total Male Population	2011	104596415
3	Total Female Population	2011	94985062
4	Total Rural Population	2011	155111022
	Rural Male Population	2011	81044655
	Rural Female Population	2011	74066367
5	Total Urban Population	2011	44470455
	Urban Male Population	2011	23551760
	Urban Female Population	2011	20918695
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 2012, Govt. of U.P.

Agricultural Statistics at a glance 2012 Govt. of India.

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

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

The agriculture sectors 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 is depende 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 total production of food-grains in U.P. was 41665 thousand M Tonnes in 2006-07 which has increased to 48192 thousand M Tonnes in 2010-11 showing 15.66 percent increase over the period. The total production of pulses was 1814 thousand M Tonnes in U.P. in 2006-07 which has gone upto 2017 thousand in 2010-11 registering a growth rate of 11.19 percent over the period. The total production of oilseeds was 754 thousand M Tonnes in U.P. in 2006-07 which has increased to 893 M. Tonnes in 2010-11 thereby showing 18.44 percent increase over the period. Thus the growth performance in production of food-grains and oilseeds in U.P. was quite satisfactory between 2006-07 and 2010-11. However, the growth performance in production of sugarcane in U.P. between 2006-07 and 2010-11 was negative by 10.77 percent. The growth performance in the production of potato was positive being 21.28 percent during corresponding period. The GDP at current prices has been estimated at Rs. 684173.28 crores during 2011-12. The per capita income was estimated at Rs. 18,249 at const ant price (2004-05) and Rs. 30051 at current price.

**Table-1.2**  
**State Domestic Product 2011-12**

Sl.No.	Per Capita Income (At Current Prices)	30051 (in Rs.)
1	Capita Income (At 2004-05 Prices)	18249 (in Rs.)
2	Net State Domestic Product (At current price)	609518.20 (in Crores Rs.)
3	Net State Domestic Product (At 2004-05 price)	370150.30 (in Crores Rs.)
4	Gross State Domestic Product (At current price)	684173.28 (in Crores Rs.)



## Marketing

The agricultural marketing facilities are well developed across the state. The state has 249 regulated markets. Apart from this, there are also 356 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. 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

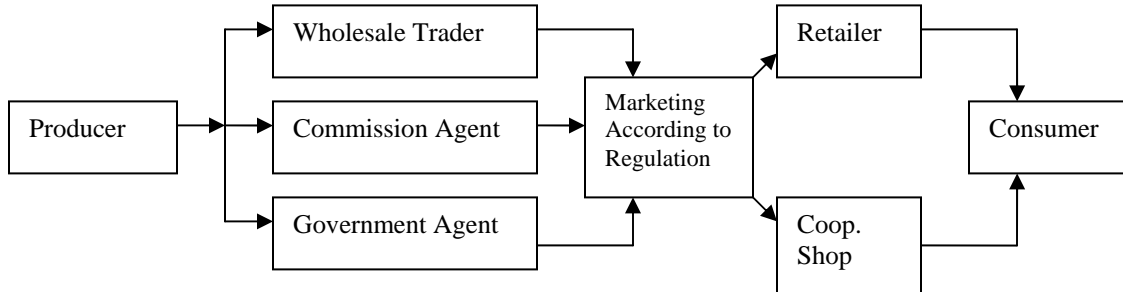
The process of Agricultural Marketing has been divided into two Parts.

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

1. Producer → Consumer
2. Producer → Trader → Consumer
3. Producer → 

	→	Agent	→	Consumer
	→	Traders	→	Consumer
4. Producer → Govt. Agencies → Controller/ Coop. → Shop consumer

**(B) Regulated Market**



**Table-2**

**Details of Different Type of Marketing Activities in U.P.**

Sl.No.	Particulars	Nos.
1	Total regulated market	249
2	Total Sub Market	356
3	Constructed Market Yards	208
4	Constructed Sub Market Yards	85
5	Constructed Fruit and Vegetable Yards	69
6	Constructed Fish Market Yards	05
7	Constructed Milk Yards	05
8	Constructed Flower Market Yards	02
9	Rural Hats	225
10	Rural Godowns	238
11	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 348 agencies 47.75 percent is stored by FCI followed by 40.29 percent and 11.96 percent by SWC and CWC respectively.

**Table-2.1**  
**Agency-wise number and Capacity of Storage in U.P. 2010-11**

<b>Agency</b>	<b>No.</b>	<b>Capacity in M.T.</b>
Food Cooperation of India	163	3741403
U.P. State Warehousing Corporation	140	3156552
Central Warehousing Corporation	45	936314
Total	348	7834269

## **3. Natural Resource Management**

### **Land Use**

The total geographical area of the state was 24170 thousand hectares of which 68.64 percent under cultivation in 2010-11. Of the total reporting area of 24170 thousand hectares, land put to non agricultural use accounted for maximum share, being 11.73 percent followed by 6.86 percent, 5.03 percent, 2.23 percent and 2.01 percent, of forest, current fallow, permanent fallow and barren and un-culturable land respectively in 2010-11 . 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. 2010-11**

( Area in thousand Hect)

Sl.No.	Particulars	2010-11
1	Reporting Area	24170
2	Forest	1658
3	Barren & Un-culturable Land	486
4	Land put to Non Agriculture Uses	2835
5	Culturable Waste Land	426
6	Permanent Pastures and others grazing land	66
7	Land under Miscellaneous Trees, crops and groves etc.	354
8	Current Fallows	1215
9	Fallows Land (other than current fallow)	538
10	Net Area Sown	16593
11	Area Sown More than Once	9022
12	Gross Cropped Area	25615

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 alkaline clay loam etc.

**Table-3.2**  
**Type of Soils**

Sl.No.	Particulars	Area (000 ha.)	% of total
1	Sandy Loam	NA	NA
2	Loam	NA	NA
3	Clay Loam	NA	NA
4	Silt Loam	NA	NA
5	Others	NA	NA

Source: Directorate of Agriculture, U.P.

### **Cropping Intensity**

The cropping intensity was 155.60 percent during 2011-12. 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 25615 thousand hectares cereals accounted for 69.13 percent followed by 9.57 percent pulses and 4.17 percent oilseeds respectively during 2011-12. The productivity per hectare of cereals was 27.94 qtls followed by 9.93 qtls and 8.28 qtls of pulses and oilseeds respectively during 2011-12. Sugarcane, potato, vegetables are main cash crops of the state.

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

Sl.No.	Particulars	2010-11	2011-12
1	Cropping Intensity	154.37	155.60

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**

Irrigated Land with Two Crops	Irrigated Land with One Crop	Dry Land
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 229393 thousand, the marginal holding accounted for 79.20 percent followed by 13.14 percent, 5.78 percent, 1.73 percent and 0.15 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.</b>	<b>Nos.</b>	<b>Size of holding (Hect)</b>
1	Less than (1.00 Hect.)	6710629	18167072	0.40
2	Small (1-2 Hect.)	4200335	3013634	1.40
3	Semi Medium (2-4 Hect.)	3604951	1326531	2.73
4	Medium (4-10 Hect.)	2191233	396681	5.55
5	Large (10 and above)	381810	35430	15.20
6	Total	17088960 (100.00)	22939348 (100.00)	0.80

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

## **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.

**Table-3.6**  
**Statement of Rainfall in “MM” in U.P. in Monsoon Season 2011-12**

<b>Total Normal Rainfall June to May</b>	<b>Total Rainfall June to March</b>	<b>% to its Normal</b>
947.5	828.8	87.5

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 1182549 qtls in 2011-12 against target of 1137660 qtls which was more than the target. The availability of seeds of paddy, maize, jowar and bajra was more than the target in 2011-12. However, the availability of seed of til, sunflower, groundnut and soyabean 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 2011-12.

**Table-4.1**  
**Seeds, Target, Availability & distribution Certificate Seed 2011-12**

(Quantity in Qtls.)

Sl.No.	Crops	Target	Availability	Distribution
<b>Kharif</b>				
1.	Paddy	900600	942488	848797
2.	Maize	74000	78003	61910
3.	Jowar	11550	12509	10302
4.	Bajra	27230	27601	25433
5.	Urd	37000	45228	27737
6.	Moong	6080	8386	5892
7.	Arhar	29750	20973	18596
8.	Til	1850	1847	1718
9.	Sunflower	1000	758	735
10.	Groundnut	30550	29262	26973
11.	Soyabean	17100	14892	14354
12.	Capas	950	602	596
	<b>Total</b>	<b>1137660</b>	<b>1182549</b>	<b>1043043</b>
<b>Rabi</b>				
1.	Wheat	4000000	421621	3936650
2.	Barley	35000	30911	30478
3.	Gram	115000	103857	102198
4.	Pea	100000	105125	104825
5.	Lentil	50000	37869	36400
6.	Rai/Mustard	21000	21216	21127
7.	Toria	12000	12062	12063
8.	Linseed	2000	1837	1707
9.	Rabi Maize	4000	3497	3155
	<b>Total</b>	<b>4339000</b>	<b>4438015</b>	<b>4248603</b>

Source: Directorate of Agriculture Seed & Farm Division

The target of total seeds of rabi crops was fixed at 4339000 qtls in 2011-12 of which 102.28% was available. It shows that availability of seed of rabi crops was higher than the target. The availability of seed of wheat, barley, pea and mustard and Toria was higher than the target, while the availability of seed of gram, lentil and linseed was less than the target in 2011-12. The distributed quantity of seed of rabi crops was also found less than availability of seeds in 2011-12. It shows that there was no shortage of seeds of most of crops of kharif and rabi seasons during 2011-12 in Uttar Pradesh.



### **Fertilizer Distribution in 2011-12**

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 3215 thousand M. Tonnes during 2011-12 of which 102.30% was available. It shows that there was no shortage of nitrogenous fertilizers in the state during 2011-12. Against this, there was huge shortage of phosphatic and potassic fertilizers in Uttar Pradesh during corresponding period.

**Table-4.2**

#### **Fertilizer Distribution**

(000 M. Tones)

<b>Sl.No.</b>	<b>Years</b>		<b>Nitrogen</b>	<b>Phosphatic</b>	<b>Potasic</b>	<b>Total</b>
1	2010-11	Target	3001	1319	510	4830
		Achieve	2950	1100	267	4317
2	2011-12	Target	3215	1326	399	4931
		Achieve	3289	1146	159	4594

Source: Directorate of Agriculture Fertilizer Division in U.P.

### **Pesticides Distribution in 2011-12**

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 16055.00 M. tonne to distribute the different types of pesticides during 2011-12. The availability of pesticides against targeted quantity was more than double during 2011-12 in Uttar Pradesh. It shows that there was no shortage of pesticides, fungicides, weedicides etc. during 2011-12 in U.P.

**Table-4.3**  
**Pesticides Distribution 2011-12**

(M.Tonnes/K.litre)

Sl.No.	Name of Pesticides	Target	Availability	Distribution
1	Pesticides Powder	8172.00	20447.44	12566.28
2	Pesticide liquid	938.00	2830.72	1838.58
3	Fungicide	1388.00	3207.51	2124.76
4	Weedicide	2372.00	5286.34	4369.43
5	Rat killer	159.00	293.45	170.86
6	Bio-pesticide	3026.00	3732.33	2951.15
	<b>Total</b>	<b>16055.00</b>	<b>35797.79</b>	<b>24021.06</b>

Source: Directorate of Agriculture , Pesticides Division in U.P.

### **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.

**Table-4.4**  
**Farm Machinery and Equipment 2007-08**

Sl.No.	Name of Machinery & Implements	Numbers
1	Plough	4752764
2	Sugarcane Crusher	340498
3	Tractors	733154
4	Bullock carts	1050657
5	Pump set for irrigation (diesels)	2312113
6	Electric pump sets for irrigation	422322

Source: Directorate of Agriculture, Farm Machinery Division U.P.

**Table-4.4A****Farm Machinery and Equipment Distribution 2011-12**

<b>Sl.No.</b>	<b>Name of Machinery &amp; Implements</b>	<b>Numbers</b>
1	Hand Winnowing fan	1280
2	Chaff Cutter	2314
3	Cultivator (BD)	520
4	Disk Harro (BD)	290
5	Disk Harro (TD)	1636
6	Zero Drill –Seed drill	684
7	Seed-cum-fertidrill	5799
8	Disk Pyau / MB PY AU	55
9	Cultivator (T.D)	716
10	Potato Planter	153
11	Rotaveter	9694
12	Pump-set	36449
13	Power Threshers	1183
14	Power Tiller	40
15	Multicoop Planter	18
16	Leeser Labler	30
17	Tractors	668
18	Spikler Set	1396
19	Napseek prear	117161
20	Konoreeder	7926
21	Pesticide Machine	25782
22	Farez Harvester (Tiotilizer Brodcaster)	345

Source: Directorate of Agriculture, Farm Machinery Division U.P.

### **Irrigation by Different Sources**

The tube wells and canals are main sources of irrigation in Uttar Pradesh. Out of total net irrigated area, being 13440 thousand hectares, 71.50% area was irrigated by tube wells followed by 18.90%, 8.6%, 0.80% by canals, wells and ponds respectively during 2010-11 in U.P.

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

(Area in thousand Hect.)  
(Figure in bracket are %)

Sl.No.	Sources	2009-10	2010-11
1	Canals	2558 (19.10)	2539 (18.90)
2	Tube wells	9614 (71.80)	9607 (71.50)
	Govt. Tube-wells	394 (3.00)	417 (3.10)
	Private Tube-wells	9221 (68.9)	9190 (68.40)
3	Wells	1032 (7.7)	1154 (8.6)
4	Ponds	126 (0.9)	102 (0.8)
5	Others	53 (0.4)	39 (0.3)
6	Net Irrigated Area	13383 (100.00)	13440 (100.00)
7	Gross Irrigated Area	19354	19628

Source: Statistical Diary 2012, Govt. of U.P.

### **Labour and agricultural wages**

The wage rate per male labour was Rs.150 per day against Rs. 100 of a female labour in 2011-12 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</b>
1	Male	150
2	Female	100

### **Credit and Insurance**

The distribution crop loan for Kharif as well as rabi crops during 2011-12 was 96.89% and 94.69% against the targeted crop loan respectively in U.P.

A total number of KCC issued by different banks in U.P. upto 31<sup>st</sup> March 2012 was 20134309 of which commercial banks accounted for 41.42% followed by 34.71% and 23.87% by cooperative banks and RRBs banks respectively.

**Table-4.7**  
**Statement of Crops Loan in 2011-12**

<b>Season</b>	<b>Crop Loan Target (in crore)</b>	<b>Crop Loan Distribution (in Crore)</b>	<b>Distribution in percentage</b>
Kharif	13253.57	12841.42	96.89
Rabi	19880.36	18825.59	94.69

Source: Directorate of Agriculture, Uttar Pradesh.

### **Crop Insurance in 2011-12**

The total insured area of Kharif and rabi crops was 2521141 hectares in 2011-12 in Uttar Pradesh. The compensation amount was estimated at Rs. 3972.30 lakh which had been received by 113513 farmers of U.P. during 2011-12.

**Table-4.7A**

**Numbers of Kisan Credit Cards (KCC) issued by different banks in U.P. upto 31<sup>st</sup> March 2012**

Sl.No.	Cooperation Banks	Regional Rural Banks (RRBs)	Commercial Banks	Total
1	6987941	4805204	8341164	20134309

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

**Table-4.7B**

**Detail of Crop Insurance in 2011-12**

Crop Season	No. of farmers	Insured Area (in Hect)	Insured money (in Lakh)	Premium (in Lakh)	No. of farmers	Compensation (in Lakh)
Kharif	1078498	1389228	191064.49	4602.01	55535	2421.98
Rabi	1022357	1131913	206747.02	3490.93	57978	1550.32
Total	2100855	2521141	397811.51	8092.94	113513	3972.30

Source: Directorate of Agriculture, Uttar Pradesh

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

The rice, wheat, bajra, barley and maize are important cereal crops in the state. Out of total GCA, 25615 thousand hectares during 2010-11 in U.P. wheat accounted for highest share being 38.26 percent followed by 22.70 percent, 3.67 percent, 3.03 percent, 0.78 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 25615 thousand hectares during 2010-11 in U.P. gram had occupied maximum share being 2.30 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 2.31 percent followed by 0.34 percent and 1.51 percent of groundnut and other oilseeds respectively during the same period.

The average production of wheat was 31.11 qtls per hectares in 2010-11 while the average production of barley, rice, bajra, maize and jowar was 24.93 qtls., 21.22 qtls., 16.61 qtls., 15.04 qtls., and 10.30 qtls. per hectare during 2010-11 in U.P. The average production of gram, arhar, moong and urd was 9.22 qtls., 9.01 qtls., 6.78 qtls. and 6.35 qtls., per hectare during 2010-11. The average production of mustard was 11.85 qtls. followed by 9.93 qtls. of groundnut per hectare during 2010-11 in U.P.

**Table-5**

**Major Crops-Area, Production and Yields (Year 2011-12) (Tentative)**

(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	59.23	139.63	23.58
2	Maize	7.45	12.32	16.51
3	Bajra	8.88	16.33	18.31
4	Jowar	1.92	2.13	11.01
5	Til	3.45	0.75	2.17
6	Ground nut	0.92	0.92	10.01
7	S. Cane	21.62	1288.19	595.70
<b>Rabi</b>				
1	Wheat	97.31	318.92	32.77
2	Barly	1.58	4.04	25.60
3	Gram	5.77	6.84	11.85
4	Mustard	6.39	7.28	11.36
5	Potato	5.58	123.16	220.81

Source: Directorate of Agriculture, U.P.

Note: The data of area, production and productivity of different crops for 2011-12 in U.P. are tentative, so it has not been described.

## 6. 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.

### Existing Extension Services in Uttar Pradesh

Public Sector	Private Sector	Other Sources
<b>Departmental Extension system</b> <ul style="list-style-type: none"> <li>- Agriculture Dept.</li> <li>- Horticulture</li> <li>- Animal Husbandry, Dairy</li> <li>- Sericulture</li> <li>- Fisheries</li> <li>▪ Agriculture Uni.-6</li> <li>• KVK-67</li> <li>▪ KGK-19</li> <li>▪ Central Research Ins.</li> <li>- NBRI, IIVR, IIPR, CIPR</li> <li>- Seed Technology Center</li> </ul> -CSSRI <ul style="list-style-type: none"> <li>▪ PACS</li> </ul>	<b>Fertilizer Companies</b> <ul style="list-style-type: none"> <li>- IFFCO Krishi Sewa Kendra</li> <li>- KRIBHCO Sewa Kendra</li> <li>- Indogulf Krishi Sewa Kendra</li> <li>- Tata Kisan Sansar</li> <li>▪ Seed Supplier companies</li> </ul> - Pesticide companies <ul style="list-style-type: none"> <li>▪ Hariyali, Khushali,</li> <li>▪ Agriculture Marketing Ins.</li> </ul> -E- Chaupal <ul style="list-style-type: none"> <li>▪ Mobile Extension Services</li> </ul> <ul style="list-style-type: none"> <li>- IFFCO, Cane Dept., ICT</li> </ul>	<b>S Print &amp; Electronic Media &amp; Danik Jagran (Khet, Khaliyan, ATMA Sandesh)</b> <ul style="list-style-type: none"> <li>- Danik Hindustan (Kisan Mela)</li> <li>▪ Aakashvani (Chaupal)</li> <li>▪ Doordarshan (Krishi Darsan/ Anndata)</li> <li>▪ NABARD</li> <li>▪ Farmers organization</li> <li>▪ Farmers club,</li> <li>▪ Farms School, Agri business, Agri Clinic</li> <li>▪ Kisan Vidhyalaya, Self Help Group, Farmers Group</li> </ul>



## **7. Animal Husbandry**

The total population of live stock was 38809 thousand during 2007 in U.P. of which goats accounted for 38.12 percent followed by 21.35 percent and 5.12 Percent buffaloes and pigs respectively. Out of total population of bovines of 20380 thousand in 2007 in U.P. the buffaloes population accounted for 59.34 percent followed by 40.66 percent of cattle population. The total production of milk was 173.56 lakh MT in Uttar Pradehs during 2005-06 of which 68.46 percent was accounted for buffaloes followed by 25.66 percent and 5.88 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.

**Table-7.1**  
**Animal Husbandry**

<b>Sl.No.</b>	<b>Particulars</b>	<b>2007</b>	<b>2011-12</b>
1	Cattle	8286467 (21.35)	N.A.
2	Buffaloes	12093504 (31.16)	„
3	Sheep	1400474 (3.61)	„
4	Goats	14829064 (38.21)	„
5	Horse & Ponies	98036 (0.26)	„
6	Pigs	1986793 (5.12)	„
7	Other Live Stock	114200 (0.29)	„
8	Total	38808538 (100.00)	„
9	Poultry etc	17879918	„

Source: Directorate of Animal Husbandry, Uttar Pradesh.

Note: Figures in Number, Brackets are in %

**Table-7.2**  
**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
2010-11	2200	2843	5043	180	13	8
2011-12	2200	2843	5043	180	13	8

Source: Directorate of Animal Husbandry, Uttar Pradesh

**Table-7.3**  
**Animal treated by Animal Department in Uttar Pradesh**

(Figures in Lakh)

Years	Animal Treated	Castration Performed	Total Vaccination	A.I. Cow	A.I Buffaloes
2010-11	250.33	10.80	608.09	27.96	15.47
2011-12	282.57	N.A.	550.56	32.99	21.34

Source: Directorate of Animal Husbandry, U.P.

**Table-7.4**  
**Dairy in Uttar Pradesh**

Milk Production	2010-11	2011-12
A- Cow per day per milk Animal	3.185	3.132
B. Buffalo per day per Milk Animal	4.431	4.433
Total Milk Production (000 Tonnes)	21031	N.A

**Table-7.5**  
**Growth of Fisheries in Uttar Pradesh**

(000 qtls.)

	Fish Production	2006-07	2010-11	2011-12
2	Department	9	11	13
3	Other	3058	4164	4284
	Total	3067	4175	4297

## **8. 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.

### **References**

- R.S. Dixit (2004) Agricultural Marketing in India. Shubhi Publication Gurgaon 12200/Haryana, India
- GOUP (2011) Statistical Diary, Economics & Statistics Division, State Planning Institute, U.P.
- GOUP (2012) Statistical Diary, Economics & Statistics Division, State Planning Institute, U.P.
- GOI, 2011 Agricultural Statistical at a Glance, Ministry of Agriculture, Govt. of India.
- GOI, 2012 Agricultural Statistical at a Glance, Ministry of Agriculture, Govt. of India.
- GOUP (2011) Statistical Abstract, Economics & Statistics Division, State Planning Institute, U.P.
- Web sites Referred – <http://updes.up.nic.in>  
[www.agriculture.up.nic.in](http://www.agriculture.up.nic.in)  
[www.upmandiparisa.in](http://www.upmandiparisa.in)
- Data collected from office of the Joint Director Statistics, Director of Agriculture, U.P.
- Seed and Farm Division, Krishi Bhawan, Lucknow.
- Farm and Machinery Division, Krishi Bhawan, Lucknow.
- Plant Protection Division.