# "AGRICULTURAL LAND–USE PATTERN IN RAEBARELI DISTRICT, UTTAR PRADESH: A GEOGRAPHICAL APPRAISAL"

**Dr. Brij Vilas Pandey**
**Associate Professor And Head Of The Department**
**K.S. Saket P.G. College Ayodhya, Faizabad 224123**

**SAJAL SINGH**
**RESEARCH SCHOLAR**
**DEPARTMENT OF GEOGRAPHY**
**K.S. SAKET P.G. COLLEGE AYODHYA, FAIZABAD 224123**

Agriculture and land use planning derives the achievement of sustainable livelihoods. Agricultural activities can transform the lives of people in the respective region through crops, rangelands, animal farms, agriculture and other agribusiness industries. The rapid increase of human population leads to other changes in land use and agricultural activities in Indo-Ganga Plain. Urbanization and socioeconomic development on national level basically changed the agricultural land use pattern in India. Rapid changes adversely effected, however, integration of technology in agricultural activities has been bringing phenomenal change in this sector. The challenge for Indian agriculture has achieved higher productivity to satisfy needs on the ground, irrigation and socioeconomic factors. The agricultural land use patterns and live hood planning are affected by the availability of water, pressures on land, administration and financial systems of peasants. At present, the agriculture sectors contribute Over 60 per cent of the rural households depend on agriculture in the country. In addition, it continues to serve as the main source of living for the rural population; it remains central to the Indian Economy which employs more than 50 per cent of the total workforce and contributes around 17-18 percent to the country's GDP. Land use is also the prime cause of the loss or fragmentation of natural habitats due to multiple interacting socio - economic factors causing loss of biota due to degradation of natural habitats and ecosystem. The transformation of agriculture and land use planning would promote to integration of farmers and their families as actors and participants in the strategic development planning process in the district. Strong agricultural sector can bring a massive change among common man of India.

Keywords*: Sustainable livelihoods, agribusiness industries, habitats, transformation.*

## Introductions

The history of Agriculture in India dates back to Indus Valley Civilization Era and even before that in some parts of Southern India. Agriculture is the most important sector of Indian Economy. Indian agriculture sector accounts for 18 per cent of India's gross domestic product (GDP) and provides employment to 50% of the countries workforce**.** Gross Value Added by agriculture and allied activities is estimated at Rs 17.67 trillion

(US$ 274.23 billion) in FY18 (APEDA). The Indian food industry is poised for huge growth, increasing its contribution to world food trade every year due to its immense potential for value addition, particularly within the food processing industry. The Indian food and grocery market is the world's sixth largest, with retail contributing 70 per cent of the sales. The Indian food processing industry accounts for 32 per cent of the country's total food market, one of the largest industries in India and is ranked fifth in terms of production, consumption, export and expected growth. It contributes around 8.80 and 8.39 per cent of Gross Value Added (GVA) in Manufacturing and Agriculture respectively, 13 per cent of India's exports and six per cent of total industrial investment. Above mention face show data show it is a good symptom of the Indian economy from the agriculture sector. Agriculture is ultimate source for food. It is a primary sector, which related to agriculture, forestry, grazing, fishing and mining, so its conversion of agricultural and non-agricultural land use development would help to understand the environment, health and economic activities interaction with nature. The proper use of land would protect our natural environment and frequently considered to solve a local environmental related issue. The government of India vision of doubling farmer's income by 2022 is worth serious attention. This ambitious objective could not only improve the well-being of our farmers, but also planning to improve land use patterns, irrigation facilities, bank loans, machineries Agro-based manufacturing growth and market center in rural India. There are three chief cropping **seasons** in district also namely Kharif, Rabi and Zaid. The major crops of this district are paddy, wheat, sugarcan, pigeon pea, gram, pea and mustard.

**LOCATION OF THE STUDY REGION:-**

Raebareli lies in the southern part of Uttar Pradesh. The district is irregular in shape, but fairly compact. It forms a part of the Lucknow Division and lies between Latitude 25° 49' North and 26° 36' North and Longitude 100° 41' East and 81° 34' East. On the north, it is bounded by tehsil Mohanlal Ganj of Lucknow and Haidergarh of Barabanki, on the east by tehsil Mussafir Khana of district Sultanpur and on the south-east by pargana Ateha and the Kunda tehsil of district Pratapgarh. The southern boundary is formed by Ganga which separates it from the district of Fatehpur. On the west lies the Purwa tehsil of Unnao. Rae Bareli is a district in the Uttar Pradesh State of India. Administratively the district is divided into 7 sub-division namely Sadar, Unchahar, Dalmau,Tiloi, Maharajganj, Lalganj and Salon and 21 Development Blocks viz Rahi, Harchandpur ,Sataon, Amawan, Maharajganj, Bachharawan, Shivgarh, Dalmau, Jagatpur, Unchahar, Lalganj, Khiron, Tiloi, Salon, Deen shah gaura, Rohania, Singhpur, Bahadurpur, Deeh, Chhatoh and Saraini. There are1776 villages in the district. Total area of Rae Bareli is 4,609 km² including 4,532.51 km² rural area and 76.49 km² urban area. Rae Bareli has a population of 34,05,559 peoples. There are 6,19,707 houses in the district. As per live-stock census 1997, the cattle, buffalo, sheep, goat and pig population is 700775, 326366,74194,254175 and 184201, respectively (Source - District Profile, Krishi Vigyan Kendra, Raebareli) .

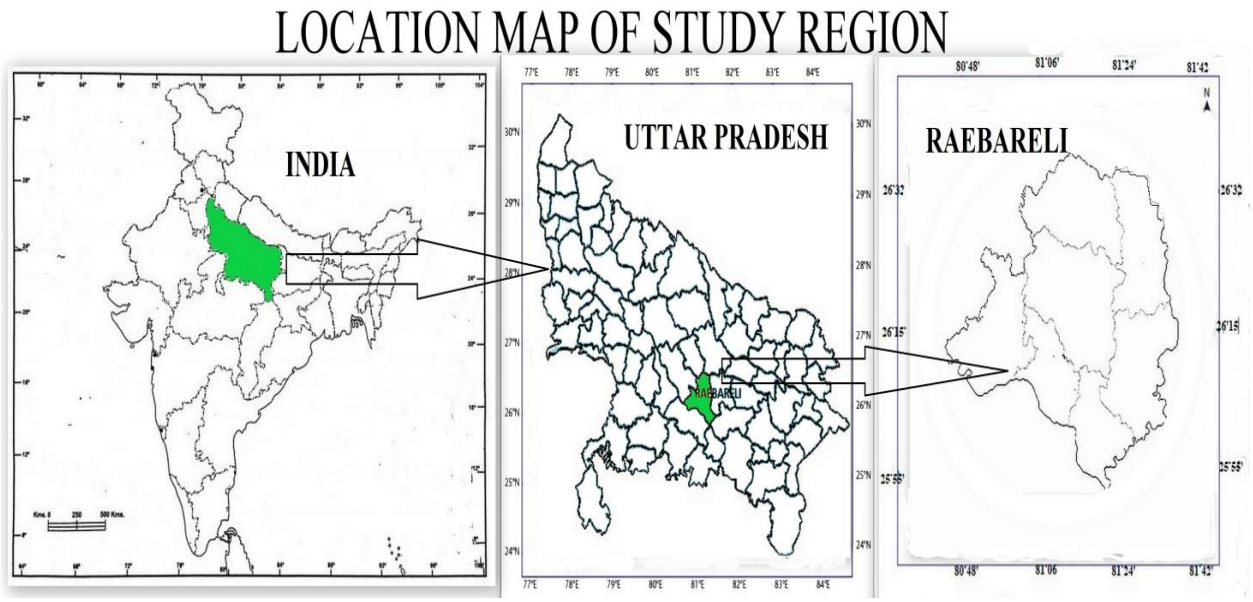



Figure – 1

## Aim and Objectives Present study intends the following objectives

1. To analyze the changes of land use pattern between the periods 1997-98 and 2014-15.
2. To analyze the changes of cropping pattern between the periods 2004-05 and 2017-18.
3. To analyze the land-use pattern and cropping pattern.

## Data Base and Mehodology:

The present study is based on secondary data collected from Agriculture Informatics Division, National Informatics Centre, Ministry Of Communication & IT, Govt. Of India, New Delhi., District census and handbook, Gazetteer Agricultural epitomes, Agricultural statistical information Uttar Pradesh were also observed for getting relevant information. In the present investigation, district and state level data are being utilized Raebareli district of Uttar Pradesh, for 2004 – 05 and 2014-15 to analyses the land use and for cropping pattern 1997-98 to 2017-18. Simple statistical techniques (percentage and average) are used to analyses the changing trend in cropping pattern and crop intensity.

$$\text{Crop intensity} = \frac{\text{Gross cropped area}}{\text{Net sown area}} \times 100$$

## Land use Pattern

The land use classifications mean ding information on land cover, and providing from work to satisfy the basic needs of the community of respective regions. Land classification is based largely on the quality and intensity of the land utilization (Mohammad Ali, 1978). The land use of the reporting area is categorized into nine categories of land use pattern which identify by "The Directorate of Economics and Statistics in the Ministry of Agriculture, Government of India". These categories are forests, land not available for cultivation (Area Under Non Agricultural Uses & Barren and Unculturable Land), other uncultivated land, excluding fallow land (Permanent Pasture and Other Grazing Land, Land Under Misc. Tree Crops and Groves not Included in Net Area Sown & Culturable Waste Land), fallow land (Fallow Lands Other Than Current Fallows & Current Fallow), and net area sown. Land use /land cover has decreased during the last 10 years due to increasing population. The estimate for the decrease/increase land cove in the Raebareli land use record contains 456338 hectares in 2004-05 to 392045 hectares in 2014-15 (Table N-1). From 2004-05 to 2014-15, the table N. 1 indicates the volume of negative change in forests (-16.00), area under non agricultural uses (-30.86), barren and unculturable land (-9.38), permanent pasture, - other grazing land (-14.54), land under Misc (-60.33), cultural waste land (-6.08) and net sown area (-17.40). Only fallow lands other than current fallows (9.43) and current fallow (45.41) record an increase. Thus, overall decrease in agricultural land use patterns of Raebareli district.

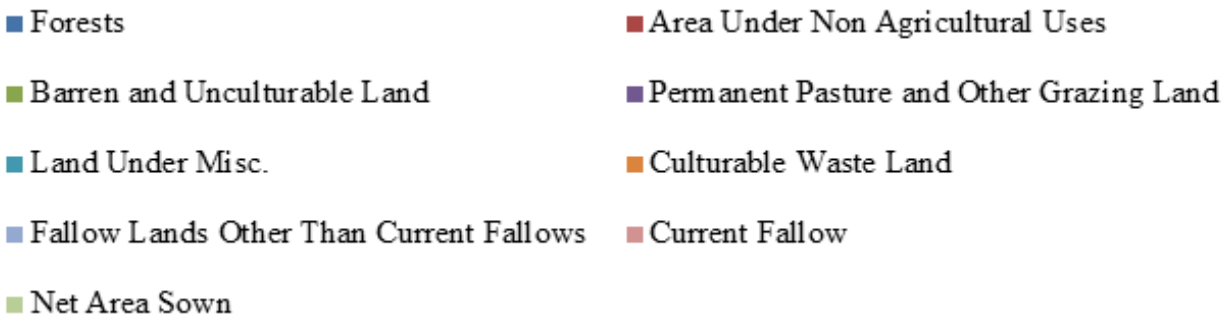
The above table explains the agricultural land use of reporting area change in Uttar Pradesh from 2004-05 to 2014-15 was 24201294 hectares to 24170454 hectares. Shrinking net sown area of Uttar Pradesh from 16682926 hectares to 16598043 hectares or -0.50, during the period of investigation. Normal shrinking of net sown area is of great concern to shift of agricultural land towards non-agricultural uses like a settlement for growing populations, infrastructure and raising factories etc. It is clear from the above discussion that net sown area in Raebareli record -17.40 per cent negative change during the periods of 2004-05 - 2014-15. Land use is always related to conservation of land resources. It is not easy to convert urban to agricultural land use, but an unprecedented change in forest regions can manage through human efforts. There is, thus, an urgent need to evolve and adapt land-saving technologies for better utilization of agricultural potentials.

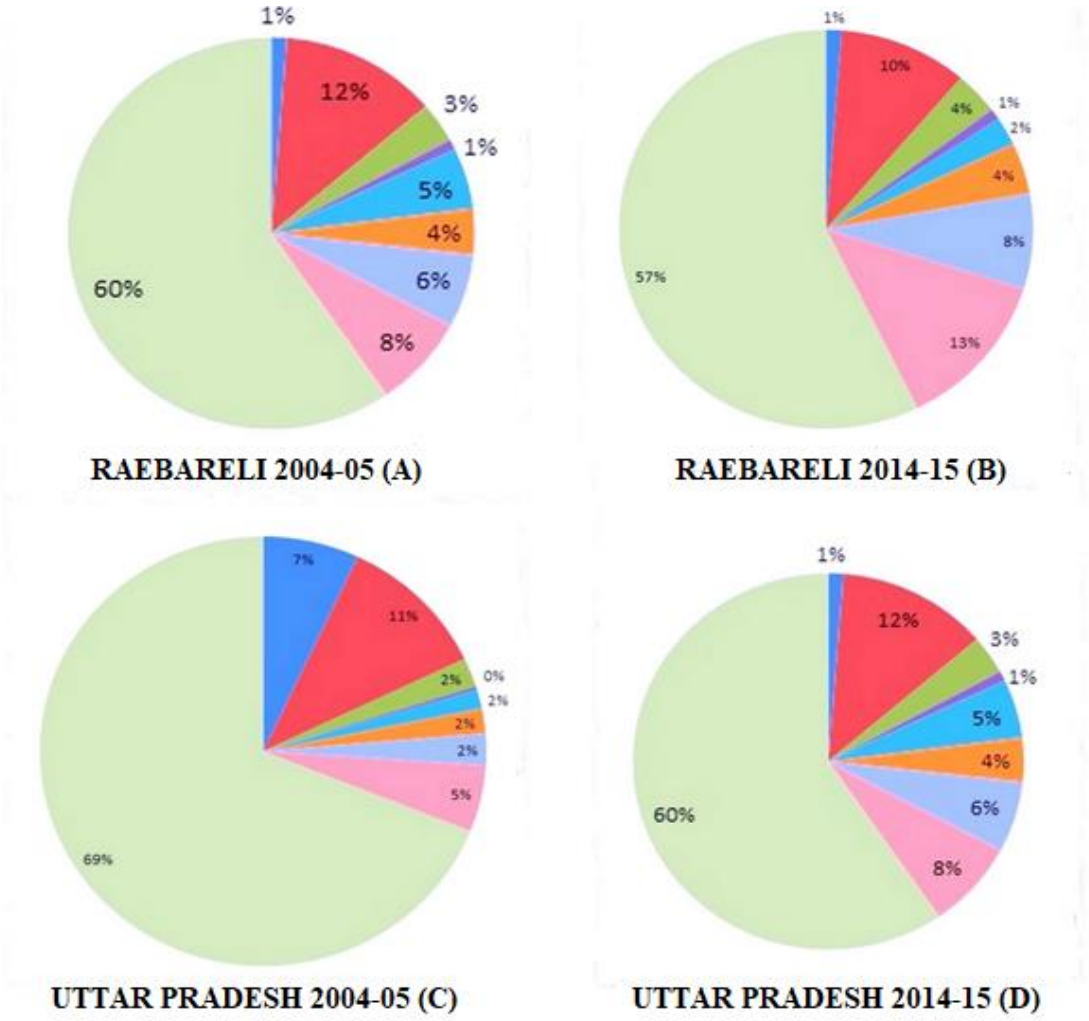
## Table - 1 Agricultural Land Use Pattern (Raebareli & Uttar Pradesh)

| Sr. N | LAND USE PATTERN | Uttar Pradesh | | Percentage Change From 2004-05-2014-15 | Raebareli Distirct | | Percentage Change From 2004-05-2014-15 |
|---|---|---|---|---|---|---|---|
| | | 2004-05 | 2014-15 | | 2004-05 | 2014-15 | |
| 1 | Reporting Area for LUS | 24201294 | 24170454 | -0.13 | 456338 | 392045 | -1408 |
| 2 | Forests | 1687777 | 1658608 | -1.72 | 5717 | 4802 | -16.00 |
| 3 | Area Under Non Agricultural Uses | 2648503 | 3045852 | 15.00 | 57114 | 39488 | -30.86 |
| 4 | Barren and Unculturable Land | 529748 | 461683 | -12.84 | 15087 | 13671 | -9.38 |
| 5 | Permanent Pasture,-Other Grazing Land | 63640 | 65198 | 2.44 | 3919 | 3349 | -14.54 |
| 6 | Land Under Misc. | 343559 | 305012 | -11.21 | 22910 | 9088 | -60.33 |
| 7 | Culturable Waste Land | 454430 | 405316 | -10.80 | 17366 | 16310 | -6.08 |
| 8 | Fallow Lands Other Than Current Fallows | 573758 | 509192 | -11.25 | 27578 | 30180 | 9.43 |
| 9 | Current Fallow | 1216953 | 1121550 | -7.83 | 34811 | 50622 | 45.41 |
| 10 | Net Area Sown | 16682926 | 16598043 | -0.50 | 271836 | 224535 | -17.40 |

(Sr. N. 6)* Land Under Misc. Tree Crops and Groves not Included in Net Area Sown
Source : "The Directorate of Economics and Statistics in the Ministry of Agriculture, Government of India"

## Agriculture Land Use Distribution Chart – 1(A,B,C & D)






(Sr. N. 6)* Land Under Misc. Tree Crops and Groves not Included in Net Area Sown

Source : "The Directorate of Economics and Statistics in the Ministry of Agriculture".

## Change in Crops/Cropping pattern

Agriculture is the main occupation of rural people in Raebareli district. The cropping intensity of Raebareli district is 163.08. The major crops in Raebareli district are Arhar/Tur Bajra, Barley, Gram, Groundnut, Jowar, Linseed, Maize, Masoor, Onion, Peas & beans, Potato, Rapeseed & Mustard, Rice, Sesamum, Sugarcane, Urad, and Wheat and horticulture crops such as fruits and vegetables.

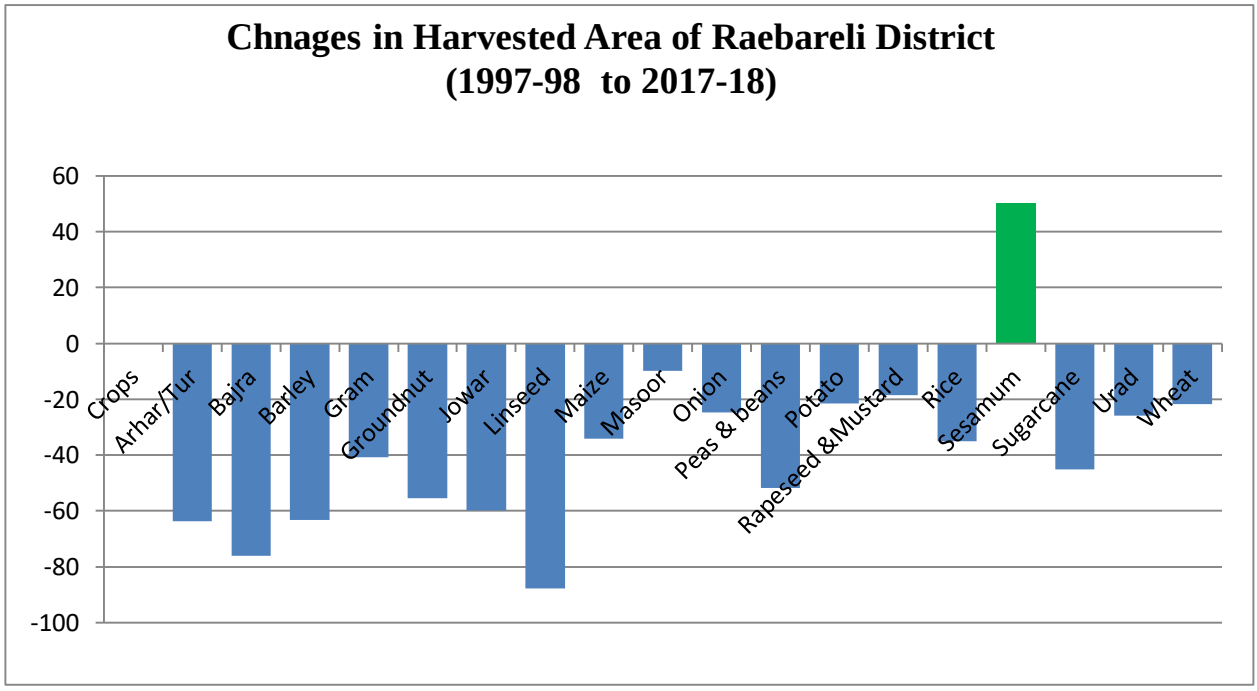
**Table N.- 2**

| Crops | Season | Crops Areas (1997-98) | Crops Areas (2017-18) | Changes | Crops Yields 1997-98 | Crops Yields 2017-18 | Changes |
|---|---|---|---|---|---|---|---|
| ***Arhar/Tur*** | Kharif | 13751 | 5001 | -63.63 | 8124 | 4257 | -69.76 |
| ***Bajra*** | Kharif | 2987 | 715 | -76.06 | 3293 | 807 | -75.49 |
| ***Barley*** | Rabi | 5197 | 1909 | -63.27 | 8129 | 4351 | -46.48 |
| ***Gram*** | Rabi | 9134 | 5417 | -40.69 | 7416 | 4999 | -32.59 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| ***Groundnut*** | Kharif | 2853 | 1270 | -55.49 | 4500 | 1262 | -71.96 |
| ***Jowar*** | Kharif | 15289 | 6152 | -59.76 | 14621 | 4568 | -68.76 |
| ***Linseed*** | Rabi | 287 | 35 | -87.8 | 122 | 21 | -82.79 |
| ***Maize*** | Kharif | 147 | 97 | -34.01 | 139 | 237 | 61.22 |
| ***Masoor*** | Rabi | 81 | 73 | -9.88 | 68 | 69 | -1.47 |
| ***Onion*** | Kharif | 313 | 236 | -24.6 | 3222 | 3093 | -4 |
| ***Peas & beans*** | Rabi | 4549 | 2191 | -51.84 | 5072 | 2675 | -47.26 |
| ***Potato*** | All Year | 5453 | 4280 | -21.51 | 44184 | 66366 | 33.42 |
| ***Rapeseed &Mustard*** | Rabi | 8261 | 6723 | -18.62 | 5862 | 5063 | -13.63 |
| ***Rice*** | Kharif | 139897 | 90875 | -35.04 | 240101 | 222462 | -7.35 |
| ***Sesamum*** | Kharif | 1971 | 2960 | 50.18 | 296 | 1231 | 315.88 |
| ***Sugarcane*** | All Year | 4404 | 2417 | -45.12 | 196454 | 124563 | -36.59 |
| ***Urad*** | Kharif | 18802 | 13961 | -25.75 | 7642 | 4341 | -43.2 |
| ***Wheat*** | Rabi | 169054 | 132317 | -21.73 | 324779 | 444982 | 37.01 |

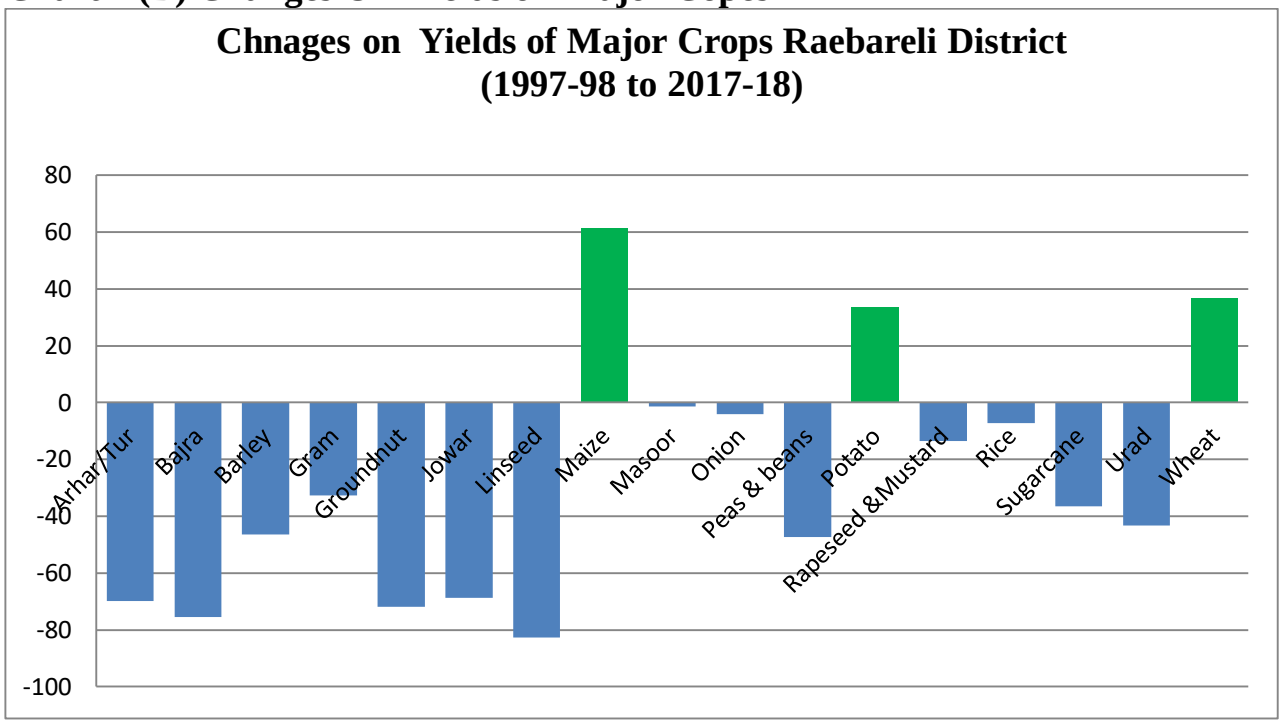
Source : "The Directorate of Economics and Statistics in the Ministry of Agriculture, Government of India"

## Chart 2 (A) Changes Of Share Of Area Under Major Copes




Source : "The Directorate of Economics and Statistics in the Ministry of Agriculture, Government of India"

**Chart 2 (B) Changes Of Yields of Major Copes**




Source : "The Directorate of Economics and Statistics in the Ministry of Agriculture, Government of India"

Rural India basically depends on the amount and stability of agricultural production, as determined by crop yield and cultivated area, because Agriculture land is crucial for humans because it produced all the types of biomass and important economic sources. Static data about the Raebareli district show, crops harvested area decreasing of almost crops except Sesamum. There are three crops' production growth is positive Wheats, potatoes & Sesamum and the rest have decreased from 1997-98 to 2014-15.

## Intensity of Cropping

Intensity of Cropping pattern of any region depends upon geographical features as soil, climate, rainfall, etc. Apart from this, it depends on the nature and availability of irrigation facilities. The net sown area has decreased from 271836 to 224535 hectares in 2004 to 2014-15. The present cropping intensity of Raebareli District, 163.08 has registered an increase of only 8.6 % from last 20 years.

## Conclusions

The present study concludes that in Raebareli district, the wheat & rice cultivation are suggested to sustain with the adoption of improved HYV and recent technology. The new approach to agricultural development and land use planning can provide an opportunity to get employment generation, poverty alleviation, community empowerment and development of other economic activity of the rural areas. The state government, local community and business houses should establish a public policy framework to support new agricultural economic era development. After the analysis of land-use and land-cover changes district main cause are fall under the following categories: population, technology, political economy, political structure, and attitudes and

values. The agricultural sector is indispensable for the Raebareli district, since the existing policy need to focus on protection and conservation farmers and promote sustainable developments.

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