ABSTRACT

Importance of agriculture in the context of economic development has been debated since long time. Agriculture forms the only part of economy that produce a surplus above the current requirements of labour and capital employed. Agriculture sector, besides being a prime source of food, is also a source of raw materials for expanding industries. Agriculture development would lead to an increase in the purchasing power of the rural poor and the growth of non-agricultural sector by providing a marked increase in production from industries. Agricultural sector carries a double obligation to increase production, and to provide capital for other sectors in order to promote economic growth, while at the same time, it must provide for the welfare of the farmer and their families.

Agriculture being the largest industry and main occupation of the people of Eastern Uttar Pradesh has an important place in the economy of the state. The struggles in land and production have effects, which ripple over all other sectors. Social and economic policies in agriculture set the tone and momentum of the whole national economy; therefore, there is considerable debate about land use. Land use is perhaps the most basic concept of agricultural economy. It is a key to the understanding of geographic adjustment of the agricultural resources. Moreover, regional land use patterns are the geographical expression of a large number of societal decisions made at different times for very different reasons which are responsible for an expansion of one category of land use at cost of other. Land use in any region of the world varies due to the variations in the distribution of sunshine, rainfall, topography of the land, drainage
conditions, and soil characteristics of the region. The spatial differentiation in these elements affects the purpose of land use for agriculture.

The Eastern Uttar Pradesh presents more or less uniform characteristics of physical environment in its structure, relief, climate and soil. Basically it is a plain area. Swampy and marshy lands formed by the deposition of the final materials of the rivers, produce the Terai area. The numerous tributaries of Ganga and Ghaghra rivers form the drainage network. The general flow of the rivers is west to east. The floods are quite regular due to gentle gradient. The region of Eastern Uttar Pradesh still remain under developed despite of its well balanced surface, alluvial land, dense drainage network and abundant manpower resources. The main economic activity in the region is agriculture which provides a source of living. The increasing pressure of population has almost slow-down the economic development and poverty of Eastern Uttar Pradesh has become proverbial in the country. To remove the backward status of agricultural development in the region, more comprehensive approach to agricultural development has been pronounced where in geographical condition in general and technological determinants in particular have been made responsible. The above mentioned two characteristics which provide a base for special variations not only in agricultural productivity but also in agricultural landscape.

Eastern Uttar Pradesh is an important part of Uttar Pradesh. It spreads from 23° 45 North to 28° 20' North latitudes and 81° 5 East to 84° 36' East longitudes. Eastern Uttar Pradesh is bounded by Nepal in the north by Central region and Bundelkhand region in the west, Madhya Pradesh and Chhattisgarh in the south and Bihar and Jharkhand in the east. The northern
limit of this region is bounded by Indo-Nepal international boundary, which broadly cuts through the Bhabar and Terai zones of Bahraich, Siddharthnagar and Maharajganj. The Eastern Uttar Pradesh extends over an east to west length of 375 Kilometers and North to South 550 kilometers.

OBJECTIVES OF THE STUDY

The Eastern Uttar Pradesh is taken as the study area because it is one of the most important agricultural areas of Uttar Pradesh and about two- third rural population is engaged in agricultural activities. Keeping in mind, a detailed study of Eastern Uttar Pradesh is under taken to see the socio-economic development in different field.

The basic objectives of the study are:

(1) To assess the transformation of land use pattern.
(2) To estimate the levels of production of food crops
(3) To examine the agricultural transformation and the levels of development.
(4) To find out the levels of development like industries, health, education, electricity supply, transportation, communication etc. in the study area.
(5) To assess the rural transformation and their socio-economic developments.

APPLIED METHODOLOGY AND SOURCES OF DATA

For a successful planning and analysis of various problems, data are essential. Regional development is a complex problem; therefore collection and sources of data should be reliable and up-to-date to achieve accurate result and conclusion for making decision and future planning. Without the
knowledge and clear understanding of the comparability of data over times as well as pitfalls and the gaps, one may lead to faulty results.

The present study is primarily based on secondary data covering the period of 1980-81 to 2000-2001 but for detail analysis of impact of agriculture transformation on rural development, primary data (field data) have also been used which are collected through a well-prepared survey scheduled. Secondary data have been collected from government and quasi-government agencies in whatever form-published or unpublished, it was available. District and state level gazetteers are consulted for historical background. The time frame work for the study stretches from 1980-81 to 2000-2001 primarily because of availability of latest data at that point of time for various indicators included in the study viz., rainfall, temperature, land use pattern, irrigation, area and production of food and non food crops. The sources of data utilized the sources of data utilized in the present studies are mentions below:

1. District gazetteers of different districts of Eastern Uttar Pradesh
2. Department districts head office record.
3. Districts census handbook.
4. States administration statistical bulletin
5. Agricultural statistical bulletin, Uttar Pradesh.
7. Survey of India topo - sheets.
8. Census of India.
The thesis has been organized into seven chapters. Introductory chapter dealing with the conceptual frame work including the basic aims, objectives, data resources, overview of literature, design and methodology and survey schedules. The geographical profile of the study includes administrative profile, physical setting-geological structure, physiographic structure, climate, drainage and different types of soils of the study areas.

In the net sown area of Eastern Uttar Pradesh, there has shown a marked variation among the districts of the study area. The districts of Ghazipur, Jaunpur, Azamgarh, Ballia, Gorakhpur, Deoria, Basti, Faizabad have high proportion of area whereas the districts of Allahabad, Gonda, Bahraich, Pratapgarh have low proportion of area. The main factors of variations in the distribution of net cultivated of the region are soil and others are a continuous population pressure, an increasing demand of food grains. Area sown more than once in the study area has shown constant progress has been recorded over the given periods of time from 30.29% in 1980-81 to 33.43% in 2000-01. Gross cropped area has also shown constant increase in the eastern Uttar Pradesh i.e. 89.06 % in 1980-81 to 100.54 % in 2000-01.

From the above discussion various relations are observed between land use pattern and the level of agricultural development viz. very high to medium levels of agricultural development registered positive transformation of land use pattern low to very low levels of agricultural development highlighted negative transformation of land use pattern. Similarly, the relationship can further be drawn between land use pattern and population which reveals that the high density of population areas have marked positive transformation of land use pattern whereas medium
to low populated areas indicate negative transformation of land use pattern. Likewise the relationship between livestock and land use pattern has shown that the areas showing high density of livestock have recorded positive rate of change in land use pattern, while the areas showing low livestock density highlighted negative rate of change in land use pattern.

The agriculture economy of Eastern Uttar Pradesh remained unchanged for a long time. The basic instruments remained same, population pressure; uncertainty of rainfall made cultivation dependent on irrigation and crop pattern closely followed the soil and climatic pattern. Even then, agriculture has shown rapid transformation in its areal expansion and it has adjusted to the changes as a consequence of overall development. Hence, the agricultural transformation has been observed with respect to area, production and productivity in food and non-food crops in kharif and rabi seasons, especially in case of cereals crops, fruits, vegetables etc. But there is still a considerable scope for horizontal expansion of agriculture by bringing substantial proportion of wasteland, culturable wasteland and fallow land under crop cultivation with the help of modem technique.

Similar to land use, the cropping pattern in the Eastern Uttar Pradesh has undergone change. The agricultural transformation during kharif and Rabi seasons are marked by positive rate of change in the study area from 1980 to 2000 but tremendous changes has been made during 1980 to 1990 due to much more development of tube wells, irrigation facilities. Due to physio-climatic and techno-institutional variations, the transformation of area under agriculture is highly variable in different parts of the study area. The area and production under food crops have shown positive rate of change in the whole eastern Uttar Pradesh. Due to green revolution, considerable changes have been taken
place in cropping pattern and production in the study area as well as the whole state.

The analysis of area under total food grains is of great significance because it plays an important role in projecting the output from agricultural sector to meet the food requirement in the study area and the state. On the whole, the area and production under total food crops have witnessed positive transformation in the state. From the above discussion we arrive at some important point that the relationships between the food crop and non- food crop in kharif and Rabi season. Wherever, the area has increased the production has also increased, and whenever the area of non-food crops has increased the production has decline due to the declining trend of yield. Similarly, the relationship between area and population is straight-forward in revealing that, in densely populated regions, the area under agriculture has highlighted positive trend of transformation and in sparsely populated region, the area under agriculture has depicted negative trend of transformation.

In the food crops, cereals play a dominant role in the economy in general and farmers in particular. The area and production of cereal at state and regional level pointed out positive transformation. The pattern as revealed by cereals is not the same when the individual crops are compared for further details. The area under rice crop cultivation has increased in the whole study area as well as the state due to the high yielding rate. The production of rice has also increased in the entire study area due to regular monsoon, using good quality of seeds, using good quality of fertilizers etc. The wheat crop is a important cereal crop grown in the study area. The area and production under wheat crop cultivation has increased in the whole study area as well as the state due to the high
yielding rate, regular monsoon, using good quality of seeds, using good quality of fertilizers demands of the products etc.

When the matter of pulses has come, there is found different type of situation and the situation is not very encouraging when spatio-temporal analysis is done for the cultivation of pulses in the study area. The area under pulses has shown decline in the state due to low yielding rate.

In Eastern Uttar Pradesh, it has been found that in recent years the demand for food grains is not increasing because of greater production. All the districts have per head per annum higher production than the standard requirement. But if we see the production pattern of cereals and pulses in Eastern Uttar Pradesh since 1980-81, we find a different pattern of production of cereal and pulses. It has been found that in 1980-81, there was deficit condition in per head share of cereals and pulses in most of the districts. Only two districts namely Deoria and Gorakhpur presented positive condition. But in 2000-01, per head share of cereals has increased more than hundred percent in all the districts and per head share of pulses decreased from 1980 to 2000. Thus at present, there is no shortage of cereals in the region and the region has sufficient production of cereals than the requirement for the total population. But the per head pulses production has decreased in most of the districts of Eastern Uttar Pradesh from 1980 to 2000. The main cause of decrease in pulses production is the decrease in area under pulses and it is due to low yielding rate. It has been found that a large area under pulses has been replaced by wheat and rice. Because the productivity of wheat and rice has increased many times by new agricultural technology. This is the major cause that is why the production of cereals has increased in eastern Uttar Pradesh while the production of pulses has decreased. Thus from
the study, two points emerge- one is that there is adequate cereal production in the region than the requirement and other is pulses production is less than the requirement. The pulse prices, at present are very remunerative to the farmers but it is the risk of crop failure due to pests and disease which discourage the farmers to cultivate the pulses in the large scale. Therefore, it is essential for the agricultural scientists to bring about a technological breakthrough as in the case of wheat and rice by developing more high yielding and pests and disease tolerant varieties of pulses. Keeping this view in mind, a number of improved varieties of pulses have been developed and they have checked the declining trend in areas where irrigation has been introduced. Now, the major task lies in motivating the farmers to adopt the pulse production also just like the wheat and rice. Similarly, there is a need to introduce short- duration varieties of pulses both under irrigated and un- irrigated conditions. This will help greatly in increasing the pulse production in Eastern Uttar Pradesh. As far as cereals production is concerned, there is adequate production in the study region. There is no any shortage of cereals in Eastern Uttar Pradesh at present. It has been possible mainly due to the high yield and higher growth rate of production by the new agricultural technology. But this adequate food grain production is not available to all the people at all times for an active, healthy and prosperous life. Poverty has been one of the major causes for this poor food security. More than seventy percent population lives in rural areas and is engaged in agricultural activity. This population, by and large, is characterized by dirt, disease, malnutrition, and ignorance illiteracy, lack of resources for improvement and development and very low rate of capital formation, considerable unemployment and more under employment and very low percentage of rural people to take advantage of science and technology
because they have neither resources nor the adequate knowledge. Acute and chronic under nutrition and most macro nutrients deficiencies primarily affect the poor and deprived people who do not have access to adequate food, live in unsanitary environment, without access to clean water and basic services and lack of access to appropriate education, capital, communication and information. In developing countries where approximately two-third of population lives in rural areas, increased production of food for family consumption or as a source of income helps to stabilize food price and improved marketing facilities can also contribute the food security. Thus there is a need to improve the socio-economic conditions in rural areas and it will ultimately offer and opportunity for better income and employment generation.

Sugarcane is one of the important commercial crops of the state as well as of the whole Nation and it has become the most important crop of some districts of the study area. This is due to well development of sugar mills in the study area. The area has reveals the positive change in this crop due to much more demands of the product and high yielding. The government also motivated the farmers towards this crop by providing many new incentives at the subsidy rate and due to this, the farmers attention is much more come forward towards the sugarcane for their prosperous life and due to this, the area is transformed from the area of other crops but only in those districts of the study area where well development of sugar mill has been made.

From the above discussion it can be inferred that wherever the area under cereals have increased, then at the same time the area under pulses has declined in the study area as well as in all the states. The positive and negative trend of area has been further revealed that with the increase in
area and production, the productivity based on calorie and money value for cereals and cash crop also increased in the study area.

After the green revolution, the region has made drastic changes in all socio-economic factors. The serious problems in India are the regional disparities and it causes social, economic and political instability. This problem is found everywhere in India. As far as the development of this study area is concerned, there is considerable spatial disparity in the level of development. Development in terms of industrialization, urbanization communication and other sectors are found only in few areas while the others are backward. In present study both techniques qualitative and quantitative have been used. These techniques are simple statistics and composite index and they are used for the assessment of socio-economic development and agricultural development in Eastern Uttar Pradesh. Such type of study provides a base for National planning and helps researchers, administrators, policy makers and planners to identify regions, at different levels of development. An analysis of the study area to identify the backward regions, to measure the levels of sectoral and overall development and extent of disparities in Eastern Uttar Pradesh, has been made on the basis of various socio-economic levels of development for the year 1980 to 2000. With the help of this analysis, it has been found that there is general development in socio-economic fields. But this development is not uniform in all the districts. The indicators, which are used for this purpose, are agriculture, industry, education, health, communication, transportation, powers etc. These indicators have not been developed in uniform pattern in all the districts. Some are highly developed and some are less developed. Similarly, some districts are developed and some are not developed.
Agriculture, industry, education, health, communication, transportation, power sectors etc. have made high and moderate development in most of the district of eastern Uttar Pradesh. The industries have made high and moderate development in Allahabad, Varanasi, Gorakhpur, Deoria, Mau, and Sonbhadra. While in the remaining districts the development of industries was low. Similarly, health sector also made high development in Allahabad, Varanasi and Gorakhpur and moderate development in Ballia, Basti, Faizabad, Pratapgarh and Sultanpur. In general, the districts of central and north-western parts have made less progress than the districts of other parts of the study area. There are different factors for the different types of development in different sectors. For example in the fields of agriculture less development in some districts is due to unfavorable topography, problems of floods and famines, lack of capital and lack of diffusion of agriculture etc. less development in industries is attributed to the fact that there is a good development in agriculture and more than 70% population is engaged in agricultural activities. The educational development is generally related to urban centers and hence high-level development is found in those districts, which have large number of settlements in terms of population and rural areas have low level of educational development. Transport and communication in general have made good progress in most of the districts. Only few districts such as Basti, Gonda, Mirzapur, Siddharthnagar, Deoria have made slow progress. The development of these sectors depends on the government policies and programs and ultimately government policies are not the same for all the districts. Level of regional development show many dimensions of progress and stagnant. There are found strong contrast in the level of development between different regions of the study area. A contagious region of high level of
development is observed in the southern part of the study area which is relatively prosperous and well developed while the other regions are moderately developed. The general pattern of the levels of development shows a decline in the economic and social well being in some districts like Bahraich, Basti, Gonda, Maharajganj and Siddharthnagar. The high level development is found in Allahabad, Varanasi, Sonbhadra, Mirzapur, Gorakhpur and Azamgarh. These districts attained the high level development in 2000-01. Similarly the districts of Pratapgarh, Ballia, Deoria, Faizabad, Sultanpur, Jaunpur and Ghazipur recorded the medium level development in 2000-01. Five districts namely Bahraich, Gonda, Basti, remained in low level category because of less development of agricultural, economic and social facilities and amenities.

The rural development in Eastern Uttar Pradesh is based on the development of certain locations of primary and secondary activities, so that these locations act as growth centre and they will provide multiplier mechanism in the transformation of rural areas in general and rural poor in particular. Hence, in agriculture various growth centres have been created for diffusion of innovation and balanced agriculture in the state. When transformation is compared in area under food grains, income and people below the poverty line. Firstly, the areas which are showing positive transformation under food grains, the share from agriculture has increased and side by there has been decline in people and number of families below the poverty line.

In the present study, and intensive fieldwork was conducted on 500 respondents of 30 selected villages based on scheduled questionnaires. It revealed meaningful and interesting result pertaining to their personal and household characteristics, farming characteristics, level of innovativeness in farming, occupational transformation, the process of urbanization in
the villages and social transformation particularly their attitudes regarding marriages, family planning, and status of girl child, religiosity, and exposure to mass media, household condition and level of crime. Besides the above noted characteristics the researcher gathered additional information through observation. In this study around 60% of the respondent belonged to the upper middle and old age groups since they are the heads and the leaders of the family major decision makers. Majority of the respondent belonged either to the OBC's or scheduled caste, higher caste Hindus and Muslims also constituted some percent of respondent. Nearly 70% of these respondents were either illiterate or less educated and their average family size ranged between 5-9 members. Around 50% of total respondent belonged to the category of landless or marginal farmers with land holdings less than 2 acres. About 50% of the respondent reported that the cropping pattern has changed over the years while 30% believed it did not and around 20% gave no answer to this question. The cropping pattern and agricultural productivity depends on level of innovativeness of the farmer and their capacity to use modem technology. So the above stated factors would have definitely helped in decreasing the area under culturable wasteland category and hence reported decrease in the uncultivated land.

Majority of the respondent in this study area were found to be very less innovative. Very small size of land holdings and poor agricultural produce can be accounted for the above fact. A substantial percentage of respondent were moderately innovative giving a clear indication that those who can afford, do use good quantities and qualities of fertilizers and pesticides and hire tractors, harvesters etc., only 20% of the total respondent were reported to be highly and very highly innovative. On the whole, the trend is towards being more innovative. Village wise analysis
reveals that villages on the immediate doorstep of Eastern Uttar Pradesh. For a complete analysis of socio-economic transformation, an assessment of the social attributes of the residents, of village was essential. Among various social parameters, educational levels, attitude towards marriage, attitude towards family planning, religiosity and social mobility were considered. Since status of women in a society is a good indicator of the level of social progress, straight-forward questions regarding the status of the girl child were included in the study. With the change in socio-economic life style, the number and nature of criminal activities also change. Hence an effort was made to understand all these forces underlying the socio-economic pattern of these villages.

Housing condition can be a good indicator of the socio-economic conditions of people. Based on several questions of diverse nature and using a scoring scheme, the respondents were grouped into three categories of poor, moderate and good housing condition. An urban influence in the life-style was clearly observed and felt by the researcher. Most of the houses were single story kutcha-pucca houses. Two thirds of the total respondents reported poor housing conditions; 18 percent a moderate condition and 16 percent a good housing condition. A great desire to emulate the city dwellers in general life-style among the villagers was felt by the researcher. Various means of the mass media play an effective role in diffusing information and affect the knowledge, attitude, opinion and behavior, which in turn affect the level of adoption of innovations and technology, leading to positive economic change. Majority of the respondents were found to be moderately exposed to them. Television sets were present in most of the houses. News papers were generally read public places and radio sets and cinema also formed very popular means of mass communication. Of course, the level of
literacy and purchasing power of the respondents did affect their level of exposure to mass media.

The field survey proved the general assumption that the degree of religiosity goes on decreasing among the people with increasing urban influence. The responses to various questions pertaining to religious practices of the respondents reinforced the fact that higher urbanizes the way of life leads to reduction in the strict following of religious rules. Based on scoring scheme by which all responses were brought to a uniform level, 37 percent of the total respondents belonged to the category of being least religious. Around 75 percent respondent said that they follow religious rules in day to day life partially, only 18 percent follow the rules fully and 7 percent respondents said they do not the rules at all. Interestingly a very distinct urban influence in matter of religiosity is getting represented in great pompous activities of jhanki during durga pooja although the level of religiosity is on decline in day-to-day life.

Marriage is other important social parameters, which is strongly interwoven in the social fabric. It acts as one of the best parameters to analyze the social transformations. Various related aspects of marriage, such as age at marriage, nature of marriage, location and place of marriage, process of marriage, dowry system etc. have undergone a change. By and large, preference of child marriage, closure distance with the caste open dowry demand and general decoration, food served etc. are undergoing drastic changes with a little difference among various castes. The index of change in attitude of people towards marriage reveals that around two thirds respondents have higher degree of change in all aspects mentioned above. The marriages in general have become very costly affair in matters of decoration, food served and photographers, vedio film and so on. One good trend that was noticed among the villagers was the
growing the practice of "Samoohik vivah" which is definitely a very bright ray of hope.

Closely related to attitude towards marriage is the attitude towards family planning. The level of awareness was extremely high that is 89 percent of the respondents were aware of these practices but only 83 percent choose to adopt it. Indian society being male dominated the respondents considered it to be women's responsibility to adopt these measures. Most of the respondents i.e. 94 percent agreed that small family is a happy family and one should go in for adopting these measures. But the difference was in the concept of small family; they believe family planning measures should be adopted after 3-4 children.

Status of the girl child is one of the indicators of social transformation. In this study area very positive change in this regard was observed. The survey revealed that 97 percent of respondents were in favour of sending their daughters to school and there was no deliberate discrimination against them. Only if the economic condition did not permit, the girls were either not send to school or were sent to government schools, while the boys were sent to English medium private/public schools. People did express a desire for their daughter to take up some profession like teachers, doctors, lawyers and so on. This was a definite positive change. Sufficient awakening as regard to their concern for the girls to become mother was reflected in their answers. Around two-third respondent believed that a girl should become a mother only after the crossing the age of 20 years.

When societies transform, they becomes heterogeneous in nature, the existing social controls get minimized, comparisons become stark and there exists revolution of aspirations among the people. These all factors at times may result in greater criminal's activities or behaviors. Crime
way not always be a physical action, it could and attitude, a feeling or an emotion. Survey revealed that although criminal activities have not increased drastically but a general feeling of insecurity and uncertainty was prevailing among people. Intoxication of several pan masalas, biri, and tobacco even in remotest villages in the age groups of 10 to 40 yrs was clearly reported. Possession of arms particularly riffs and pistols are a growing status symbol among villagers.

Occupational structure is one of the major indicators of level of development and transformation. Agriculture and allied activities are of course the main occupation but the latest trend among the people is of occupational diversification. The older generation takes up agriculture; the middle generation takes up occupation like poultry or fishing or dairy development etc. and the younger generation aim for either some small business or service in the neighboring city. Labour is emerging as one of the major economic activity. People take up different kind of works anywhere within their commutable distance and complete it within stipulated time period. It is more lucrative to them and tension free for the employer. Dairy farming and poultry farming are popular occupation being practiced on commercial and subsistence basis. The younger generation not only prefers service but also tries hard to get it.

The overall picture that emerges out of the investigation proclaims that the prevailing agricultural system in Eastern Uttar Pradesh has to be made more meaningful for accelerating the pace of socio-economic development of the masses in general and the fanners in particular. The stagnation of traditional agriculture, poor socio-economic level of the people in the villages has long been preoccupying the minds of the policy makers and the political leadership. Now they can hardly afford to ignore
the conclusions drawn by the scholars of diverse disciplines while the present investigation approaches the problem from different angle viz., land use planning, improving the existing farming systems, crop planning, tree cropping and public participation.