Chapter – 2

_Uttar Pradesh: A Geographical Outline_
LOCATION:

Formerly known as United Provinces of Agra and Oudh, Uttar Pradesh has always occupied a unique position in the map of India. In the national context it enjoys a strategic location lying at the intersection of Himalayan Region in the north and Peninsular Region in the south, encompassing the extremely fertile plains of River Ganga and Yamuna. It lies between 23°52' N to 30°28' N latitudes and 77°03' to 84°39'E longitudes (Fig. 2.1) and covers an area of 240928 sq km (India, 2007). It has a geo-political significance, sharing the international boundary with Nepal. The study area is bounded by Madhya Pradesh in the south, by Uttaranchal in the north-west, by Haryana, Rajasthan and Delhi in the west, by Bihar in the east and by Nepal in the north. The eastern and western boundary of Uttar Pradesh is demarcated by Gandak and Yamuna River respectively.

RELIEF

The relief feature of Uttar Pradesh is not much diversified. It is the result of recent structural formations and alluvium deposited by Ganga, Yamuna, Ghaghra rivers and their tributaries. The state has been divided into two major physiographic regions:

1. Indo-Gangetic Plain
2. Hill and Plateau Region

1. Indo-Gangetic Plain

This is the core region of the study area and accounts about two-third of the total area, extending from northwest to southeast. The region is made up of fertile alluvial soil deposited by the perennial rivers of Ganga, Yamuna, Ghaghara and its tributaries and has homogeneous topography. Important
Fig. 2.1

Source: Census of India, 2001
cities of the state are situated in these plains. Being a most fertile land of India and receiving good rainfall, it is one of the most populated areas of the country. Climatologically, this region may be divided into three parts:

i) Eastern Plain

ii) Central Plain

iii) Western Plain

The eastern plain comprises the districts of Gorakhpur, Siddharthnagar, Balrampur, Sharavasti, Basti, Gonda, Bahraich, Deoria, Ghazipur, Varanasi, Ballia, Jaunpur, Sant Kabir Nagar, Mau and Azamgarh. The climate of the area is damp (rainfall ranging between 100 and 150 cm). This is the most populous area but as compared to central and western plains, it is industrially backward.

The central plain has a soothing climate and moderate rainfall. The districts of this plain are Kanpur Nagar, Lucknow, Allahabad, Faizabad, Barabanki, Pratapgarh, Unnao, Sultanpur, Fatehpur, Rai Bareli, Sitapur and Hardoi. This region is economically more advanced than the eastern region. Out of the five big cities (KAVAL towns), three are located in this region. These cities are Kanpur, Lucknow and Allahabad.

The western plain is comparatively an area of poor rainfall (50 cm). It is the most developed part of Ganga plain. Agra, Meerut, Moradabad, Aligarh, Bareilly, Mathura and Saharanpur are the important industrial cities situated in this region. Industrially and commercially this is the most advanced region of the state.
2. Hill and Plateau Region:

The area lies in the southern extreme of the state and is marked by east-west trends of low rounded hills. This hilly region remains dry throughout the year except few days of rainy season. The annual rainfall in these regions is very poor and scattered. As a result, the area is agriculturally least important. Ravines and barren lands are the characteristic features of the area. The district of Mirzapur, Banda, Jalaun, Jhansi, Lilitpur and Hamirpur lies in this region. This region is backward both agriculturally and industrially. However, considerable mineral deposits are found in a considerable amount.

DRAINAGE:

Uttar Pradesh has a very well established drainage system. The general trend of the slope of the area is from west-northwest to east-southeast. Almost all rivers of the state originate from Himalayas and flow from west to east except right bank tributaries of river Yamuna. Rivers flowing in the region have a tendency to flow in sinuous courses across the plain forming ‘meanders’ and ‘ox-bow’ lakes, except Ghaghra river, which flow more or less in straight courses. The principal rivers of the state are Ganga, Yamuna, Ghaghara, Gomti and Ramganga in the north and Chambal, Sindh, Betwa, Son and Ken in the southwest.

The Himalayan rivers are more active than those coming from the south and form the great Gangetic plain with silt and sand. These rivers are the important source of irrigation and power in the region because of their perennial nature.
CLIMATE AND NATURAL VEGETATION:

The climate of the study area on the whole is healthy, except the swampy tract of the tarai. The entire state has tropical monsoon climate. It is characterized by a rhythm of seasons which is caused by the southwest and northeast monsoons. Taking into consideration the temperature and precipitation, the whole year is divisible into three distinct seasons –

i) The Cold Season (November to February)

ii) The Hot Season (March to Mid-June)

iii) The Rainy Season (Mid-June to October)

The Cold Season:

During the month of November, a high pressure belt covers the whole of the Gangetic plain. The prevailing direction of the wind is from west to east (Climatological Atlas, 1943). The temperature in the region decreases to 5-6°C in December and January. The month of January is the coldest month of the year and records lowest temperature, accompanied by mist and fog, which often reduces visibility almost nil. The month of February is generally clear sky with increasing temperature. Between December and February, a few depressions accompanied by moderate rainfall recorded throughout the area. The rainfall, though small in quantity, but highly beneficial to the winter crops, as it comes at a time when the plants are flowering (Shafi, M. 1984). The quantity of winter rain decreases from west to east.
The Hot Season:

Severe hot and dry weather conditions mark the arrival of summer season, beginning from March. The mercury shows a tendency to rise abruptly and with the migration of the heat-equator to the north. The sun pours out fiercer rays reaching a climax in May-June, where temperature as high as 40°C to 45°C may be recorded. The excessive heat has a desiccating influence on the vegetation and the surface becomes parched. The month of May and half of June is the period of intense hot dry westerly winds, locally known as ‘loot’. The occurrence of dust storms become a significant feature of the season. These storms are short-lived and frequently end up in light showers of rain.

The total average rainfall in hot season is less. The amount of rainfall decreases from east to west due to the increasing distance from the sea as the air gets progressively drier. Rainfall received during hot weather season gives temporary relief from the heat and helps in the sowing of early rice crop.

The Rainy Season:

With the monsoon burst that normally starts from the middle of June and lasts till October, a complete change in the weather is brought about with the immediate fall in temperature and upward trend in humidity. Nearly 85 to 90 percent of the annual precipitation is received during these months (June to October). However, July and August are the rainiest months of the year. The rainfall is heaviest in the north-eastern region and decreases towards south and south west. The western part of the Ganga plain has an average rainfall of 60-100 cms, while the eastern part receives from 100 to 150 cms.
On the other hand, southern hilly region receive from 100 to 120 cms rainfall annually. Rainy season is marked by high percentage of relative humidity (80 per cent). October is the month of retreating monsoon but the mean maximum temperature remains as high as in September. Rainfall though little and is useful for the rabi crops, and for maturity of late rice.

The monsoon climate and fertile soil help to grow the luxurious vegetation, particularly in the Tarai region. The common natural vegetation in the plains is Dhak (*Butea frondosa*), Bargad (*Banyan*), Neem (*Margosa*). Babul is very common in western Uttar Pradesh. Due to increased irrigation facilities and pressures of fast growing population, more and more land is being taken under cultivation. As a result, some of the good forests have actually disappeared.

**SOIL:**

Soil constitutes the natural medium, which supports the growth of plants on the earth’s surface (*Tewari, A.R., 1971*). On the basis of texture, colour and availability of water a wide range of soils both of residual and alluvial origin are found within the state. A major part of the state is occupied by the alluvial soils. The soil may be broadly classified into:

i) Forest or Hill Soils

ii) Alluvial Soils

iii) Mixed Red and Black Soils

The forest or hill soils are found in the foothills. They are mostly red loam, brown, and meadow soil. The soils found in the sub-montane tract are
pebbly and porous, which are rich in organic matter. The Bhabar and Tarai soil are mostly swampy.

Alluvial soil is the biggest and most extensive soil type in the state. These soils are formed from the alluvium deposited by the rivers Ganga and Yamuna and their tributaries, mainly the Ghaghara, Gandak, Gomti and Ramganga. The belt of the new alluvium is called Khadar and the old one Bhangar. It is one of the highly fertile soils of the state, giving adequate response to high-yielding varieties and fertilizers.

The mixed red or black soil is mainly confined in the southern plateau region. These soils are adhesive and calcareous as they are developed from stony bases. Due to poor fertilities of this soil and coupled with scarcity of water, result poor agricultural production in the area. The black soil is good for rabi crops. The other soil types are used for Kharif crops, of which jowar, millets and tils are the principal crops.

RESOURCES:

Uttar Pradesh is one of the most important states in terms of population and area but economically backward state. The progress in the various sectors of the economy has been so poor that it has remained more than one plan behind the All India Progress. Both agriculturally and industrially, state is backward, wherein 73 per cent population is engaged in agricultural sector. Similarly, the progress in the field of various social and economic overheads has been so inadequate that it has failed in meeting even the barest infrastructural requirement of the economy. A brief survey of resources has been given in the following heads:
Population:

Population is a wealth of a nation or state. Due to widespread plains with fertile soils and good rainfall, the state of Uttar Pradesh has a sizable population and high population density. It ranks first among the states of Indian Union in terms of population. According to 2001 census, the total population of the state is 166 million which account 16.17 per cent of the total population of India. The rural population of the state is 79.22 per cent and is engaged in primary activities, basically in agriculture. The urban population of the state is 20.78 percent. The population density is 689 persons per square kilometre (Census of India, 2001). The percentage of literates is 57.36 per cent, whereas male and female literates are 70.23 and 42.48 per cent respectively. It is a multi-religious and multi-ethnic state. The major portion of population (83%) is shared by Hindus and about 12% by Muslims. The remaining population consists of diverse small religious groups like Christians, Sikhs, Buddhists and Jains, etc. A sizable section of the population is educationally and economically backward.

Agriculture:

Agriculture is the most important and dominant economic activity of Uttar Pradesh, where more than 73 per cent of the state’s total population is dependent on it and its allied occupations. The absence of basic mineral resources and presence of highly fertile soil are responsible for the high percentage of agrarian population.

The state enjoys certain special climatic and physical advantages for the development of agriculture. The fertility of the thick alluvium of Ganga-
Yamuna doab, adequate rainfall, network of canals and other means of irrigation has jointly made the agriculturally advanced region of the country. It is the largest producer of food grains, sugarcane and oil seeds in the country, while the yield per acre is lower than the country’s average. Lack of application of modern technology in agriculture and small size of land holdings are the important constraints for the underdevelopment of agricultural sector in Uttar Pradesh. Moreover, about 89 per cent of total cultivated area is under cereals and pulses. Cash crops, which are important components for economic and industrial development, receive very little attention from the farmers. Sugarcane is the only cash crop cultivated in certain parts of the state but it is also not getting proper encouragement due to lack of transport system and low payment for sugarcane. The poor yield leads low productivity of land and ultimately results into low per capita income which causes severe poverty and low standard of living of the farmers.

**Industry:**

Uttar Pradesh is one of the industrially backward states in the country. Industrial backwardness of the state is largely due to the lack of industrial raw materials, shortage of power, inadequate transport and communication facilities, paucity of skill, capital and local entrepreneurs. Lack of mineral deposit is one of the key constraints of industrial backwardness of the area. Only a few mineral deposits have been reported in the plateau region. Important among these are limestone, coal, silica, asbestos, marble, few base metal, gypsum, sulphur and graphite.
Structurally, the industries are dominated by low value cottage, village industries and small scale industries. If these industries are fully developed, they could play a vital role in the economy of the state and resulting generation of employment, larger production and balanced development. Among the engineering industries, majority employment is in railway workshops, repair and servicing units. A number of small scale chemical industries which manufacturing nitrogenous fertilizers, caustic soda, soda ash, ammonium chloride and synthetic rubber are located in different parts of the state. By February 1998, medium and large scale undertakings numbered 2616 with an investment of Rs.41266.20 crores and employment opportunities for 738582 persons. Small scale industrial units numbered 491433 having an investment of Rs. 4846 crores and employment opportunities for 1880000 persons. After the introduction of liberalized ‘Industrial Policy’, 13.46 per cent entrepreneurs have opted for Uttar Pradesh. It is planned to develop 102 sector of New Okhla Industrial Development Authority (NOIDA) by the year 2011. A software Technology Park has been set up at Kanpur and five more are proposed to be set up in future.

TRANSPORT AND COMMUNICATION:

The importance of transport and communication in the economic development and prosperity of any region can hardly be ignored. It reflects the economic advancements, social conditions and the political setup of an area. Easy accessibility to different parts of a region is one of the important factors in its overall development. Railways and roads are the principal
transport system in Uttar Pradesh. The road network consists of 110479 km. surfaced roads and a maze of railway lines passing through the state. Water and air transport is less developed in Uttar Pradesh because of economic handicaps.

**URBANIZATION:**

Urbanization in Uttar Pradesh has been rather slow because major portion (79.22 per cent) of the population is rural and engaged in primary occupation, particularly in agricultural sector. In spite of all efforts since the beginning of the century, only 20.78 percent of the total population lived in towns in 2001. This shows that Uttar Pradesh is far behind the national average as far as urbanization is concerned. It is a fact that urban people are economically well-off and their standard of living is higher than rural people. So its lower urban concentration indicates the backwardness of the state.