Agriculture, which engages about three fourth of Indian population and contributes about 50 per cent of the national income is the backbone of the economic system of India. Agriculture, besides food, provides raw materials for the industries of the country. The future prosperity of the people and a stable self-sufficient economy of the nation, therefore, entirely depends on the development of agriculture.

The overwhelming importance of agriculture in national economy cannot be overemphasized. The under development of agriculture in India may be proved from the fact that the per acre yield of crops in India is comparatively low, which is barely one third or one fourth of the yield of other countries of the world. The low yield per acre in India is mainly due to the improper utilization of land. The low yield per acre has a direct influence upon the health, efficiency and nutritional standard of the rural inhabitants. The solution, however, lies in the proper utilization of land for which a thorough study of land use and crop patterns is necessary. The aim of all the agricultural planners, therefore should be to record the present land use on large scale maps which should be a basis for the assessment of the use or misuse of land. It, therefore, appears necessary to conduct a field to field survey throughout the country and to ascertain the impact of geographical conditions
(viz. structure and relief, climate, soils and availability of irrigation facilities to the crops) on the agricultural land use. The interpretation of land use maps shall be helpful in determining whether the land is under profitable usage or is being misused.

The physical environments in India are most varied. In view of local variations in physical conditions and land use patterns it is not possible to put any single plan of agricultural improvements for the country as a whole, since a plan suitable for one region may be quite unsuitable for the others. In order to overcome the problems of a region, a detailed study of its local environment is necessary. The importance of such a regional study led the writer to select Upper Ganga-Yamuna Doab for its detailed study of land use as influenced by its geographical environment.

Upper Ganga Yamuna Doab comprising the districts of Saharanpur, Muzaffarnagar, Meerut and Bulandshahr stretches for over 7,993 sq. miles, and is located between $28^\circ 04'$ and $30^\circ 24'$ N. lat., and $77^\prime 02'$ and $78^\prime 29'$ E. long (Fig. 1).

The northern boundary of Upper Ganga-Yamuna Doab is formed by the Siwaliks, the watershade of which separates the area from the district of Dehra Dun. The eastern and western boundaries
are formed by the Ganga and the Yamuna respectively. The Ganga which
flows along the eastern border of the area, from north to south
separates the plain of Upper Ganga-Yamuna Doab from the districts of
Bijnor, Moradabad and Beaun, while the river Yamuna which makes a
boundary between Uttar Pradesh and Punjab and Delhi States separates
the area from the districts of Ambala, Karnal, Rohtak and Gurgaon
(Punjab) and Delhi State. The southern border is the political
boundary of the district Aligarh. The maximum length of the area from
north to south is about 140 miles and the maximum width from west to
east is about 58 miles (Fig. 1).

In the south of the Siwaliks lies the submontane tract which is
characterised by a series of spurs, broken by numerous hill torrents.
The submontane tract locally called as shah is a porous tract in
which the water of torrents sinks into the beds of boulders to an
enormous depth below the surface. South of the submontane tract lies
the level monotonous alluvial plain, sloping gently from north-west
to south east, following the direction of the rivers. The principal
rivers are, the Ganga, the Yamuna, the Hindan and the East Kali-nadi
with a number of tributaries like Solani, Banganga, Saindli, Katha
West-Kali-naid, Kirshuni and Nim-nadi. All these rivers flow more or
less parallel to one another from north to south and south east.

1. The Ganga and the Yamuna, formerly known as the Ganges and
Jumna respectively.
The main crops cultivated in Upper Ganga-Yamuna Doab are sugarcane, rice, maize, millets, pulses, cotton and vegetables in the kharif season and wheat, gram, peas, barley, lentil and barseem (fodder) in the rabi season. The district of Meerut has the largest cultivated area — about 77 per cent, while Saharanpur with 63 per cent is the least in Upper Ganga-Yamuna Doab. In Muzaffarnagar and Bulandshahr the percentage of cultivated land is 71 and 73 per cent respectively.

The present study is mainly based on the field to field survey of fourteen sample villages which represents all sorts of local physical variations of Upper Ganga-Yamuna Doab. An attempt has been made to study the influence of geographical conditions (viz. relief, drainage, soils and irrigation) on land utilization in each of the village. On the basis of information concerning yield per acre of crops and population dependent on land, attempt has been made to ascertain the nutritional standard of the area. Besides, the extent of cultivable land based on land productivity and potential productivity has also been attempted in each village.