In the light of the observations made earlier it can be said that the most important factor determining the agricultural developments are modern inputs. The growth of agricultural production depends on modern inputs because of the limited availability of additional land for cultivation. The modern agricultural inputs requisite for the development of agriculture are, modern agricultural implement, irrigation, high yielding varieties of seeds, fertilizer, pesticides, insecticides, which must be timely available. The adequate modern agricultural inputs now make possible to have double or at places triplecroppings. The additional land use aspect of this kind results in high yield of the grains.

Double and multiple cropping becomes of great significance under the present situation of land scarcity. No further extension can be expected of cultivated land. Thus it can only be an alternative to augment the production through intensive use of agricultural land so that the income of farms families may be increased.

Infact modern inputs have been assigned a crucial role in adopting the strategies for a break-through in farm sector of the country. These inputs are takes as
most important factors to create the situation for getting maximum return out the scarce resources connected with Agriculture. The modern inputs play a key role against the lack of Agricultural productivity. A needful modern inputs supply can boost the productivity.

During the last decade, a large sum has been invested to apply the modern inputs in the country, so that the productivity may be increased to such an extent that the entire country becomes self-sufficient, consequently the basic problems related with food are being solved to a certain extent.

The importance of irrigation in boosting crop production is a well-established fact. Adequate and timely supply of irrigation to the crops is no doubt a prerequisite in the production function of agriculture.

In deep alluvial soils of Ganga basin provide copious supply of underground water which is many times more than in other areas. Ganga basin is a precious reservoir of water. Nearly 15,000 tube-wells have been sunk, serving one million hectares of land. Apart from water availability yet another source of supply is moisture sufficient for sustaining the plant life. This can be obtained by contours bunding. Importance of economies in water utilisation by lining the water conductor system and use of sprinkler is now being
realised and therefore these practices are bound to be
developed further for future use.

In view of the important role played by timely availability and adequate supplies of water in the modern method of agriculture and also taking into consideration the uncertainties associated with monsoonic rainfall and in the circumstances of inadequate irrigation facilities developed so far, it can easily be said that extension of irrigation must occupy a position of prime importance in any strategy adopted for increasing yield per hectare.

The present study relates to the agricultural development in the upper Ganga-Yamuna Doab. Agricultural sector suffered from deep rooted institutional, structural, economic and social constraints during the last many decades as a result of which productivity level has remained low but in the post-independence period, combination of several factors like priority given to agriculture, emphasis on building up an infrastructure of irrigation, power, scientific research, and extension services, land reforms which gave land rights to millions of tillers of the soil and the network of credit and marketing institutions have contributed to the unexpected increase in the grain output in the plain.
Today with the fast growing population, the immediate problem of various functionaries is to increase the agricultural production with a view to provide food stuffs to the entire population.

This can be done in two ways:

1) By bringing more and more lands under plough and
2) By increasing the yield per hectare froms the lands already under cultivation.

The second aspect now remain other an alternative feasible. Taking the point into consideration, the author has made an attempt to study the role of modern inputs in agricultural productivity of the upper Ganga Yamuna Doab. Various methods for computing agricultural productivity has been proposed by different authors. M.G. Kendale, S.G. Sapare, M. Shafi, S.K. Mukhopadhyay, L.D. Stamp, S.S. Bhatia, and G. Enyedi etc have been summarized below.

(a) output per unit area (b) output per unit of labour applied (c) output in relation to input or output ratio and profitability of farming measured in terms of the returns for the total human efforts, and (d) output expressed in terms of grains equivalent per head of population. In the present study the author has applied W.Y. Yang's method for measuring agricultural productivity in the region.

While assessing the role of many factors which influence the agricultural productivity in the upper
Ganga-Yamuna Doab, modern inputs occupy the most important position as far as the stepping up of agricultural production is concerned.

The inovational development in productive factors in the study region shaws a marked changed as far as the levels of agricultural productivity is concerned. As compared to 1966 almost all the districts of the upper Ganga-Yamuna Doab revel an increase in the productivity indices in 1982-83 for example Saharanpur showes an increase of 9.72, Muzaffarnagar 14, Meerut 25.4 and Bulandshahr 57.

1. Ghaziabad district was not formed till 1966.