Agricultural Development is crucial for India's overall development. In a predominantly agricultural economy, the overall rate of economic growth depends to a large extent on the rate of growth in agriculture. Crop productivity growth is essential for agricultural development because crops account for about 90 per cent of total agricultural product. However, in India, the good grains for the past one decade (1970-71 through 1980-81) increased at the rate of 2.26 per cent. The crop area under food grains increased at the rate of 0.38 per cent and productivity (Yield per Unit of land) increased at the rate of 1.86 per cent. Thus the overall growth rate remained quite low and is characterized by slow growth productivity. While increased crop production may be achieved through better allocation of existing resources or increasing technological innovation and investment in human capital, increased productivity gains through better allocation are limited in traditional agriculture, where farming practices are mastered by farmers over generations (Schultz, 1964). Consequently, a massive infusion of modern agricultural innovations coupled with appropriate market or price incentives may be crucial for raising crop productivity.


The success or the failure of programmes of agricultural development, in turn depends decisively on the way how farmers react to such programmes, since it is ultimately farmer who makes the final decisions concerning the allocation of land and other resources for particular crop enterprises. Several measures of public policy can directly or indirectly influence the farmers decisions. In a free market economy price policy could be considered as one of the potent instruments affecting the farmers decisions regarding land and other resources allocation.

The major problem of agriculture in Uttar Pradesh as also in the country as a whole, is essentially a problem of supply or producer response in terms of rate of change in area allocation for a particular enterprise and its elasticity in relation to price. The basic question is how quickly and at what rate can the agriculture sector adjust to changing demand pattern, rapidly changing technology and factor prices.

Agriculture is the mainstay of people of Uttar Pradesh. It alone accounts for mainly half of the state income and provides livelihood to about 75 per cent of total population. A vast majority of rural population of Uttar Pradesh depends upon major crops, wheat, rice, gram, and groundnut which have been taken up for detailed investigation in this study.

Because of the various factors like population and income growth transport bottleneck, flood and drought etc.
the prices of those crops have shown rise and fall during the period of study. Although, the price of production of crops is influenced by various factors, yet the price trend in turn might affect the farmer's decision in expanding and allocating land under crops. This is particularly true in the case of farmers above the subsistence level. An average farmer is, therefore, expected to look at future prices in order to plan the production programme and adjust the area under crops in such a way that his profit or return is maximum.

The basic postulate of market economy is that prices influence production and lead to efficient allocation of resources. Economic theory suggests that profit maximizing farm firms reallocate area and variable inputs among crops in response to price change. However, controversies have been ranging high in economic literature regarding the function of price in general and supply responsiveness of agriculture in developing economies in particular. Some economists like Schults\(^1\) and Dentwhal\(^2\) proposed that the farmers' response to price or relative price is similar.


to that observed in modern agriculture. Ezekiel\(^1\) and Mathur\(^2\) on the other hand hold that the marketed surplus of subsistence farmers is inversely related to price because such farmers may have relatively fixed monetary obligations and therefore only sell as much of their production as is necessary to obtain the desired money income. Olsen\(^3\) and Krishnan\(^4\) argued that the inverse relationship between marketed surplus and price exists for reasons of dominant income effect over price effect, due to increase in price of subsistence crops. A third group holds that the cultural and institutional restraints limit the otherwise price responsive behaviour of farmers to the extent that it becomes insignificant to price movements. Recent studies have demonstrated generally positive price response in Indian agriculture but have yielded great divergence in price elasticities of various crops in the different regions of the country.

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1. Mathur, P. and H. Ezekiel, "A Priori hypotheses about the supply response to price changes in underdeveloped agriculture" in Behman, J.R., Supply response in under-
2. developed agriculture, 1968, PP. Cit.
Justification and Importance of the Study:

Indian agriculture is undergoing a rapid change under the technological innovation that is restricted to a few crops. At a time when the new technology has partially touched the state of U.P., the country is already sufficient in food, though it is seriously deficient in pulses and oil seeds. The resulting changes in price ratio must lead to wide shifts between crops in different regions of the country. A study of input output behaviour and dynamics of land allocation of crops in the state of Uttar Pradesh is therefore necessary.

Since allocation of land to a particular crop is inseparably intertwined with the demand function for resources and functional relationship of resources return, improved knowledge of input-output behaviour and dynamics of land allocation of crops is necessary for formulation of effective policy. The knowledge is required not only for projecting the potential future area under different crops and the nature of problems related with inter-regional competition and need for adjustments in input supplies but is required also for technological promotion policies in the various regions.

Objective:

The farming business in Uttar Pradesh is characterized by low productivity and small returns resulting largely from
relatively inefficient traditional technology and non-optimal utilization of the meagrely available resources, output and income on farm can be increased by making rational adjustment in enterprise-mix and by adopting advanced technology and superior inputs. Allocation of land under different crops in a region is dependent on various physical, economic and social factors. Diversity of weather, climate and relative prices are same factors which play an important role in crop production. The present study is an humble attempt to examine the extent to which factors or inputs factors have influence on allocation of land under different crops and out put of selected crops in Uttar Pradesh.

Within this broad frame work the specific objectives to which this study is directed are:

1. To trace the growth path and trends in area, production and productivity of individual crop in Uttar Pradesh.
2. To estimate the short-run area elasticity of selected crops in Uttar Pradesh.
3. To study the cost of production of selected crops on selected farms.
4. To study the input-output relationship of individual crop on selected farms.

Hypothesis:

The hypothesis proposed and to be tested are:

1. The compound growth rate for market crops (wheat and rice) is significantly higher than for subsistence
(gram and groundnut) crops.

2. The land allocation behaviour of farmers with respect to market crops (wheat and rice), and subsistence (gram and groundnut) crops is significantly different.

3. The cost of production per quintal of wheat and rice is lower than the cost of production of gram and groundnut on different size group of farmers in the study area.

4. The input output ratio from wheat and rice is higher than gram and groundnut on different size group of farms in the study area.