DISCUSSION
DISCUSSION

This chapter attempts to discuss the main findings of the study as well as the important problems of the farmers in relation to their investment and savings, allocation of scarce resources and new technologies adoption. This discussion would facilitate the scrutiny of the findings of the problem entitled “Labour employment and income pattern under different farming systems in Bundelkhand region of Uttar Pradesh” The causes of the recent uneven distribution of income resulting from the adoption of modern technological diffusion and the government programmes for farm development. The approach taken in the present study employs the following issues for discussion:

1. Which are different farming systems prevailing in the study area?
2. What is investment pattern in different farming systems?
3. What is the level of technology in different farming systems on different size group of holdings?
4. What is the resource structure level in different farming systems in the study area?
5. What is the impact of different farming systems on income and labour employment generation in the study area?

In the system approach, the whole farm rather than the individual crops or enterprises is considered before any decision relating to the choice of enterprise or technology is made. Thus crops or technologies which are found to be high yielding or highly profitable on isolated evaluation may not necessary find their place in the cropping pattern
or the technology mix of the farm which follows a systems approach simply because the crops and technologies may not be compatible with the resource endowment, aspirations and preferences of the farmer.

Provision of labour employment opportunities is one of the major ways through which the problems of income and consumption inequalities in India can be approached. During recent years, various reasons have been advanced as to why reliance on the agricultural sector for labour employment aeration is inevitable. One is the sectoral arithmetic. Of the projected increase of more than 66 million in the labour force of India, it is estimated that 45 million may require employment in the rural sector only. This is because of the fact that the performance of Indian industrial sector in absorbing labour force has been disappointing. The other major reason for reliance on the agricultural sector for employment creation is the technical change in the cereals sector of Indian agriculture with the introduction of high-yielding varieties (HYVs). Technical change in the farm of varied changes in crop production may increase per hectare labour employment by facilitating multiple farming system, and it may also contribute to labour employment by creating a dynamic environment for farm diversification.

The average size of holdings in the study was significantly higher in comparison to the U.P. state and average size of holdings in India. But, due to the poor cropping intensity low level of resources use, traditional method of cultivation and poor yields, the land use pattern
is poor in the study area. Total cropped area under orchard was only 0.56 ha. per farm in the study area whereas it was 4.35\text{\textperthinspace}ha. per farm under crops. It indicates that the farmers of study area are not in position to spend more inputs in establishing orchard and hence follow crop production.

Since the study area is characterized by uneven topography, improper irrigation facilities, untimely availability of different farm inputs and ultimately low crop productivity. Different types of possible farming systems viz. only crop production, only livestock rearing, crop production + livestock raising, only orchard raising, crop production + orchard raising, livestock + orchard raising, crop production + livestock raising + sheep & goat farming, only sheep & goat farming, livestock raising + sheep & goat farming, crop production + livestock rearing + orchard raising, crop production + livestock rearing + orchard raising + sheep & goat farming were taken into consideration for identification of farming systems on the sample holdings.

Out of eleven possible major farming systems in the selected district Lalitpur, only four farming systems namely crop production + livestock rearing, crop production + livestock + sheep & goat farming, crop production + livestock + orchard raising and crop production + livestock + sheep & goat farming + orchard raising are found adopted by the sample farmers. The distribution of the sample farmers with regard to various farming systems was found very uneven out of 162 selected farmers only 2 sample farmers were found adopted crop production + livestock + sheep & goat farming + orchard raising.
farming system, whereas 116 farmers were found adopted crop production + livestock farming system. It implies that the sample farmers still consider to agriculture as a means of livelihood only. They are still in lack to adopt commercialized agricultural techniques in farming system.

The adoption of technology on various farming systems had been assessed in terms of irrigated area. Cropping intensity, area under high yielding varieties, use of fertilizers per hectare, use of insecticides, pesticides and culture, in crop production and raising of fruit crops cultivation. In case of live stock and sheep & goat farming it was limited to improved breed adopted. Non of the farmers of below two hectare and 2-6 hectare size group was found adopting crop production + livestock + orchard raising and crop production + live stock + sheep & goat farming + orchard, respectively. Non of the farmers of 6 hectare & above size group was found adopting crop production + livestock + sheep & goat farming system. Perhaps, the reason of this may that they still consider sheep & goat farming inferior enterprise to themselves.

Regarding the average size of holdings under crop production +live stock + orchard raising was found highest in comparison to other adopted farming system on the sample farms due to requirement of separate area maintenance under crops production and orchard raising. The intensity of cropping showed on different farming systems due to availability of total cropped area under different farming systems.
The percentage area under high yielding varieties ranges 68.395 percent to 64.411 percent on crop production + livestock + orchard raising and crop production + livestock + sheep & goat farming + orchard raising, respectively.

In case of maintenance of improved breed of cows, each farming system adopted very poor quality of cow breed. The reason behind it may be that improved breed of cows requires great care and more inputs to maintain level of milk production and still they are lacking in basic infra structure. As for as improved breed of buffaloes and sheep & goat is concerned, under each farming system well quality of cattle were found maintained. The reason of this may be that these cattle earn in dual nature i.e. milk as well as meat production and in this way farmers one side fulfil their domestic needs and other side they get cash also.

The raising of orchard was found maintained by small and large farmers. Since establishment of orchard requires more inputs, therefore, its area increased with an increase in size group of holdings. Is concluded that the adoption of technology on either of the farming system, it was directly related to availability of irrigation facility. An increase in irrigated area may result higher cropping intensity, more area under high yielding varieties, higher level of fertilizers, insecticides and pesticides consumption.

Regarding the resource structure and their efficiency, the land, labour, fixed assets, number of live stock, tractor, pumpsets, sheep & goat have assessed. The average value of fixed assets without land
was estimated higher in crop production + livestock + orchard farming system in comparison to other farming systems. Any tractor was not found in crop production + livestock + sheep & goat farming + orchard raising farming system where as it was higher on an average in crop production + livestock + orchard raising in comparison to crop production + livestock farming system due to traditional method of cultivation under the latter farming system. There was not significance difference in availability of family labour days in different farming systems.

The generation of employment in different farming systems under different size group of holdings, the study revealed that the availability of family labour and hired labour days per farm per year shows increasing trend with increase in size of holding. The study also revealed that livestock rearing generates more employment in terms of days per farm per year than sheep & goat farming under different size group of holdings. The crop production + livestock + sheep & goat farming + orchard raising farming system generates more employment in comparison to crop production + livestock and crop production + livestock + sheep & goat farming systems on below 2 hectare size group of holdings where as on 2-6 hectare size group of holdings, it was higher on crop production + livestock + orchard raising farming system in comparison to crop production + livestock and crop production + livestock sheep & goat farming system. In case of 6 hect. & above size group of holdings it was higher on crop production + livestock + sheep & goat farming + orchard raising farming system in
comparison to crop production + livestock and crop production + livestock + orchard raising farming system. A reverse trend was observed between annual human labour employment generation and size of holdings in different farming systems.

Regarding the economics of various farming systems on different size group of holdings, the study reveals that crop production + livestock + sheep & goat farming + orchard raising on below 2 ha. size group of holdings and crop production + livestock + sheep & goat farming systems on 2 to 6 ha. size group of holdings were found more profitable in comparison to crop production + livestock and crop production + livestock + orchard raising farming system in the study area. While crop production + livestock + orchard raising farming system was found more profitable on 6 ha. & above size group of holdings on the per farm basis. Regarding the measurement of farm efficiency with respect to output ratio and return to the variable cost on per farm basis in various farming systems on different size group of holdings an increasing trend was observed with an increase in size of holdings as well as crop production + livestock farming system to crop production + livestock + sheep & goat farming + orchard raising farming system. Kadian et. al. (1991) also observed the same findings with respect to diversification of farming. The economics of various farming systems on different size group of holdings on the per hectare basis gave same race and findings.

The contribution of various enterprises in different farming systems, it was observed that crop enterprise remained more
contributing enterprise although the share of it decreases as the number enterprises increase in the farming systems. This is due to sharing of available resource on the sample farms as the number of enterprises increase in farming systems. The contribution of livestock shows a decreasing trend as number of enterprise increases as well as with an increase in size group of holding from below 2 ha. to 6 ha. & above. while a mixed trend was observed in sheep’s goat enterprise. Singh, A.K. & others (1991) and Singh, S.N. & and others (1991) observed same findings that the optimum combination of enterprises in a farming system is helpful in augmenting. The level of employment as well as income. However mixed farming systems can only be successful if better marketing facilities are available for the disposal of milk and other by products of these farming systems.

Analysis of resource efficiency of land, labour and capital in various farming systems worked out. The land use efficiency shows an increasing trend in sheep & goat and orchard enterprises in various systems of farming which shows sustainable use of land in enterprises. While in crop and livestock enterprises, there was not any significant relationship with number of enterprise in various farming systems. The labours use efficiency in various farming systems shows the highest return per labour day in crop production + livestock + orchard raising farming system and it was lowest in crop production + livestock + sheep & goat farming + orchard raising farming system. Subba. (1993) reported same results in his study. The financial test ratio to assess capital use efficiency in terms of operating ratio, fixed ratio and gross
ratio in various farming systems shows that operating ratio and gross ratio were found lowest in crop production + livestock + sheep & goat farming + orchard raising farming system in comparison to other farming systems. It implies that as the available resources are shifted from crop production + livestock farming system to crop production + livestock + sheep & goat farming + orchard raining farming system, their combined efficiency also increases.