Chapter-VII
Conclusions
Conclusions:

Agriculture is an important sector for the sustained growth of Indian economy, as nearly 70 per cent of the rural and 8 per cent of the urban household still depend on it for employment and livelihood. Despite a series of successful agricultural innovations, the agriculture sector in Indian continues to be dominated by small time, several non-agricultural activities also provide opportunities for income and employment to the labour force belonging to both farming and non-farming households.

In the recent time, farming in India has become non-viable, specifically for marginal and small farmers. Their meager land is not sufficient to earn adequate income to maintain their family. Also, the agriculture sector alone cannot absorb the growing rural labour force due to fallings output edacies of employment within the sector.

The importance of non-farm employment is gaining momentum in India as rural economy is becoming diversified and is being extended well beyond agriculture. The labour absorptive capacity of agriculture ahs reached the upper limit and it is not able to keep the rural workers engaged throughout the year. Rural households also seek employment outside the agriculture sector to tide over the inter-year variations in agricultural income.

The questions of farm and non-farm relationship analyzing the trend, pattern and impact of farm, off-farm and non-farm activities on income and employment of rural economy on macro level have been tackled by some studies.

During slack agricultural season, the small farmers and landless households depend on rural non-farm activities as the secondary source of income. The development factors like
agricultural modernization, commercialization, increased demand for non-crop goods and services, urbanization, growing literacy and even welfare-oriented policy intervention, etc. have tried to pull the labour force away from agriculture towards more lucrative non-farm activities. Several distress factors like poverty, unemployment, under-employment and frequent natural calamities like droughts have pushed the rural households to go in search of various non-farm activities to supplement their income and employment.

India has seen more than five decades of planned economic development, with the basic objective of growth with social justice. It was envisaged that an egalitarian society would be established and hunger, want, starvation and unemployment shall be totally eliminated from our society. There is no doubt that the country has achieved a great deal in several spheres. The economy has grown stronger; agriculture, industrial production and export have grown. Credit and other infrastructural support systems have also improved substantially but the country, still has to achieve the objectives of economic growth with social justice and full employment.

Agricultural labourers who are mostly landless and form a significant section of rural society mainly depend on wage employment in agriculture. Majority of them belong to scheduled castes and scheduled tribes and are among the worst exploited section of the rural society. Unlike the industrial labourers who are well organized and well paid, agricultural labourers are neither well organized nor well paid.

The successive population censuses and, the Agricultural Labour Enquiries conducted in 1950-51 and 1956-57 were also faced with the problem of defining agricultural labour. Unlike industrial labour, it is rather difficult to give an exact definition of
agricultural labour because in the absence of capitalistic type of agriculture in our country, a separate class of workers depending wholly on wages does not exist. Since the line between agricultural labourers and other agricultural groups is subject to marginal shift, one class overlaps the other: therefore, we cannot compartmentalise the agrarian society into distinct classes. This overlapping creates difficulties in evolving an exact definition of agricultural labour. Another difficulty in defining agricultural labour arises from the fact that many small and marginal farmers work partly on the farms of others to supplement their income. It is difficult to say to what an extent these farmers may be included in the category of agricultural labour.

The facet of Indian agriculture has rapidly changed in the recent past and is changing fast. In country like ours the strategy of planning for the labour surplus economy in the rural sector should have the objective of the maximization of opportunities of employment. The pre requisite for future planning of the available labour force is the information about the technical coefficient with regard to labour absorption and labour productivity. The knowledge with regard to these coefficients is limited to the cultivation of crops. In view of the changing agriculture these technical coefficients need to be examined from time to time. They are not available for BANGAR, KARAIL and DOAB tracts and cropping systems prevailing in them. There is general absence of information's on labour employment and labour productivity on dairy enterprises. In view of the inconsistent findings from empirical studies conducted in different parts of the country, the impact of new technologies on labour absorption continues to be a subject of considerable controversy, which calls for further empirical studies in different regions, agro-climatic conditions. Soil tracts and cropping systems in respect of the
level of employment, labour productivity and the factors influencing demand of labour. There is lack of empirical evidences on labour employment and its productivity for Dairy and their comparison with crop enterprise. This study is aimed at bridging the vital gap in knowledge in respect of the above. The objectives of the study are as below:

**Objectives:**

1. To examine the land holding, patterns of cropping, farm operation and level of income of agricultural labourers in study area.
2. To study mode of wage earnings, income and asset formation on sample labourers.
3. To find out extent of employment and idleness among agricultural labourers.
4. To estimate the income consumption and saving pattern of sample labourers.

The sample of this study consists of 45 landless labourers of which 16 are from BANGAR, 14 from DOAB and 15 from KARAIL regions. 38 households are from <0.5 hectare size of which 13 are from KARIAL, 11 from DOAB and 14 from KARAIL regions. 29 households belong to 0.5 to 1.0 hectare size group of which 9 belong to BANGAR, 12 to DOAB and 8 to KARAIL regions. 8 households belong to >1.0 hectare size group of which 2 are from BANGAR and 3 each from DOAB and KARAIL regions.

Cropping pattern of a region is reflected by the area-under different crops. It also reflects the soil suitability, ecological base, effects of market forces and the priority accorded to different crops, by the cultivators of the region. Prior to the Green Revolution the state of Uttar Pradesh was considered as three broad crop based regions termed as the crop centrality regions. Areas around Meerut division were Wheat centrality region, the
areas of Bundelkhand division and Agra region were Millet centrality region. The districts belonging to Varanasi and Gorakhpur divisions were considered as Paddy centrality region. It was presumed that cropping pattern of the region as well as the priority accorded to different crops in the region, depended upon central crop. It necessitated that the other crops were assigned areas after allocation of area under Paddy in East U.P. After the introduction of HYV Seeds cultivators of northern India in general adopted Paddy, Wheat, Crop rotation, which affected the cropping pattern.

The operational area of 40 agricultural labourers from BANGAR is 15.50 hectares and the gross cropped area is 28.64 hectares. The operational area of 40 agricultural labour households of DOAB is 19.54 hectares with 28.41 hectare gross cropped area. Similarly the operational area of 40 agricultural labour households from KARAIL region is 17.58 hectares and gross cropped area 26.99 hectare.

The cultivators of the three regions i.e. BANGAR, DOAB and KARAIL follow different cropping patterns in view of the heterogeneity in soil types and ecological conditions. The heterogeneity in ecology is evident from wide differences in cropping intensity of the operational holdings of sample households of the three regions. The cropping intensity of sample households in BANGAR is 184.77 per cent, DOAB is 145.39 per cent and KARAIL is 153.53 per cent. The differences in the cropping pattern are evident from share of different crop enterprises in gross cropped area of the sample households. Ballia district is located in Paddy centrality zone of the state but the share in area of Paddy in BANGAR is 41.23 per cent, DOAB is 25.25 per cent and KARAIL 23.16 per cent, Gram is cultivated in 0.49 percent area in BANGAR, 2.95 per cent area in DOAB
and 2.27 per cent area in KARAIL regions. Masoor is cultivated in 4.90 per cent in BANGAR, 5.13 per cent in DOAB but substantially higher 16.34 per cent area in KARAIL. Similarly Jwar is cultivated in 0.41 per cent area in BANGAR, 0.71 per cent area in DOAB and 0.39 per cent area in KARAIL. Arhar is cultivated 1.31 per cent area in BANGAR, 2.35 per cent area in DOAB and 1.91 per cent area in KARAIL. The perusal of the area under different crops cultivated by sample households reflects of different cropping system prevailing in the three regions of Ballia district.

There are three broad areas of labour employment in agriculture: viz (a) employment in crop production (b) employment in allied agriculture activities viz. animal husbandry, processing etc. and (c) employment in supporting activities viz. transport repair etc. On the pattern of the studies conducted by Krishna (1975), Desgupta (1977) and Ishikawa (1981), attempt was made under this study to identify the broad areas of labour employment in agriculture in different soil tracts in Ballia district.

It is evident that there is district difference in the level and pattern of labour absorption in KARAIL, BANGAR and DOAB regions of Ballia district not-with-standing the differences in average farm size. It can be stated that per farm labour absorption in BANGAR region is higher than that of DOAB and KARAIL regions, though the average size of operational holding is lowest in BANGAR. Between DOAB and KARAIL regions, the average farms of DOAB region seem to provide more employment than that of KARAIL region. Another observation emerging from the study is that in BANGAR region animal husbandry provides more employment than cultivation of crops. In DOAB and KARAIL regions cultivation of crops has emerged as the most
important area of farm level employment. The gap between the two areas of economic activities providing employment of the farm level is too narrow. It can thus be observed that cultivation of crops and Animal husbandry are almost equal in generating employment at the farm level in the areas under this study. The share of the supporting activities viz. transportation, repairing etc. is marginal, around 5 person days per farm in all the three soil based regions.

The per hectare labour employment for cultivation of Paddy ranges from 100.47 to 104.89, Wheat 86.06 to 87.76, Barley 52.54 to 61.74, Jowar 46.00 to 52.00, Maize 86.05 to 97.44, Moong 42.33 to 53.00, Masoor 46.77 to 51.60, gram 46.07 to 57.23, Pea 41.77 to 51.00, Arahar 72.00 to 81.00, Mustard 47.57 to 54.00, Sugarcane 168.00 to 180.00, and Potato 168.00 to 172.40 persons per day in the areas surveyed.

In cultivation of individual crops there is marginal effect of the differences in soils and agro-climatic situation. In all the three regions, cultivators follow similar crop management practices as the result of which there is similarity in use of labour input in different crops. This leads to the conclusion, that the labour employment is influenced by the selection of crop enterprises and the share of different crops in the cropping pattern.

It can be presumed on the basis of the empirical evidences emerging from this study that per farm, as well as per hectare labour employment is positively associated with the intensity of cropping. On the basis of these findings it can be suggested that the labour employment is more associated to gross cultivated area than net cultivated area.

The comparison of labour utilisation in different regions follows more or less similar pattern in per cent terms, as evident
from the study subject to the effects of priority accorded to cultivation of different crops. In preparation of land it ranged from 16.51 per cent in BANGAR to 20.36 per cent in KARAIL region. In sowing/ plantation it ranged from 10.89 per cent in DOAB to 13.11 per cent in BANGAR region. The higher per cent share of sowing/ plantation in BANGAR area was probably on account of higher area allocated to Paddy crop. In fertilizer and Manure application it ranged from 5.19 per cent in DOAB to 9.72 per cent in BANGAR region. The high share in BANGAR region is probably due to larger proportion of area under Potato and Sugarcane. Similarly the per cent share of irrigation and interculture operations in BANGAR region also seems to be higher due to higher area allocation to Potato and Sugarcane crops in the region. Though overtime comparisons were not attempted in view of the nature of the objectives of this study. However, the comparison of our findings with that of Singh D. et. al. (1984) which were undertaken in Jaunpur district of Uttar Pradesh indicate general decline in use of labour input in preparation of land probably on account of increasing popularity of tractor ploughing and changing concept in agronomic management of crops.

It can thus be observed that agronomic management of Paddy crop in the district is similar despite the differences in the agro ecological situation in different soil regions and that the labour employment in the crop is not affected by the divergence in ecological conditions.

It can thus be observed that agronomic management of the crop as evidenced from labour use pattern in different operations in the district is not affected by the differences in the regional ecology based cropping system and farmers throughout the
district generally follow similar pattern in use of human labour input in cultivation of maize crop.

It can thus be observed that the agronomic management as reflected in labour employment of the crop and labour employment for its cultivation is affected by the ecological differences.

The technological changes in agriculture and the changes in socio-economic and political life in villages have resulted in restructuring of the composition of labour use vis-à-vis family and hired labour, and male and female labour. The empirical evidences obtained from different parts of the country indicate of the enhancement in participation of hired female and male labour in agriculture production as the result of the changes in the technology of the agriculture.

Different operations in farm production process are performed by both types of labour viz. Family and hired throughout India. Family labour denotes members of the households who are part of the family whereas hired labour denotes person engaged for doing work pertaining to farm production in lieu of wages or labour in-exchange.

The percent share of hired labour in different farm types is not uniform being 35.26 in BANGAR, 44.14 percent in DOAB and 34.12 per cent in KARAIL. The share of hired labour seems to be similar in KARAIL and BANGAR regions, while it is significantly higher in DOAB region.

Besides the effects of operations and diversities in agro-ecological conditions of different regions, the composition of labour in respect of family and hired labour input, seems to be affected by the crops (Table 5.15). In BANGAR region it ranges from 19.36 per cent in Gram to 45.43 per cent in Paddy whereas, in DOAB region it ranges from 24.38 per cent in Gram
to 54.17 per cent in Paddy. In BANGAR region the share of hired labour in important crops varies between 20.13 per cent in gram to 46.74 per cent in Paddy. This very clearly illustrates that variation in hired labour requirement is influenced by different crops.

The composition of labour input in the study area presents important indicators in respect of Male and Female labour employment in agriculture. It is evident that of the aggregate level the share of female labour comprises 31.09 percent in KARAIL, 32.42 per cent in BANGAR and 30.80 per cent in DOAB region. The regional ecology does not seem to have affected and there is uniformity in female labour participation in the three regions. However, the participation of female labour is not informed in all farm operations. The study reveals that there is no participation of female labour in land preparation and primary tillage activities. In sowing and plantation it varies from 34.99 per cent in KARAIL to 37.52 per cent in DOAB. In irrigation the female labour input varies from 4.19 per cent in DOAB to 15.21 per cent in BANGAR. In interculture the female labour share in the labour input ranges from 46.80 per cent in KARAIL to 62.86 per cent in DOAB regions,

It can thus be concluded that the agro-ecological features have affected the female labour participation in different farm operations. Besides ecological considerations priority accorded to different crop enterprises may have affected the composition of male and female labour in different farm operations. Analysis of the composition of male and female labour in different crop enterprises reveals that there is heterogeneity in female labour participation in different crops. It is evident from the table that the share of female labour varies from 14.17 per cent in sugarcane to 44.47 per cent in Paddy in KARAIL, 13.98 per cent
in sugarcane to 45.03 per cent in paddy in BANGAR and 12.98 per cent in sugarcane to 38.16 per cent in paddy in DOAB regions. It can thus be concluded that the female labour participation in different crop enterprises is not homogenous in all crop enterprises.

The study reveals that the per animal labour absorption for Cows in KARAIL, BANGAR and DOAB regions is 64.84, 70.12 and 62.14 person days per annum respectively. In rearing of Buffaloes the per annum per animal labour absorption in KARAIL, BANGAR and DOAB regions is 68.14, 76.48 and 64.12 person days respectively. For maintenance of Calf the per animal labour absorption is 40.18, 48.63 and 32.63 person days in KARAIL, BANGAR and DOAB regions respectively. In respect of Bullocks the labour absorption is 62.96, 46.26 and 60.23 person days in KARAIL, BANGAR and DOAB regions respectively. The higher labour absorption in cases of Cow and Buffaloes seems to be due to the time accounted for the milking operation. The higher labour absorption in BANGAR area in respect of all cattle is on account of the system of feeding in the region, which includes green fodder for longer period than in KARAIL and DOAB regions. In BANGAR area, cattle are maintained for longer duration on green fodder.

Two conclusions emerge from these evidences. Firstly, the ecological differences in the regions, seem to be influencing the pattern of labour absorption in dairy cattle maintenance and secondly, that the labour absorption is influenced by the system of feeding and availability of fodder which incidentally is not similar in the three regions.

The conclusion drawn is that the share of hired labour in livestock maintenance is marginally higher in DOAB region, in
respect of all types of livestock and that the share of hired labour in maintenance of Buffalo is the higher and Bullocks & Calf is lowest. It can thus be observed that the composition of labour in live stock maintenance is influenced by the regional ecology as well as by the type of livestock.

It has already been discussed and presented in that the labour absorption in supporting activities is marginal i.e. 4.12 person days per household in KARAIL, 4.62 person days per household in BANGAR and 7.54 person days per household in DOAB regions. In view of the fact that the magnitude of the labour employment in supporting activities is too small to be classified and to merge for deriving specific conclusions;

Attempt was made in this study to find out different features of agricultural wages in the area under study. We have observed that, in general, the pattern of wage payment to permanent (attached), hired labour and casual hired labour is similar with little variation in the three regions. However, there are differences in the wages paid for different farm operations.

In transplantation of rice the wage rate is settled on area basis i.e. on one-tenth of the Bigha. Normally the cash agricultural wages varies from Rs. 75-95 per day. The female laboures are paid at lower rate as compared to male laboures. The wage rate of female labour in general is less by Rs. 15 per day in comparison to male labourers. However, it was observed that there is near similarity in all the three regions under this study as for as mode ad method of wage payment and rates of agriculture wages was concerned. In view of the above discussion it can be surmised that payment and rates of agricultural wages are not influenced by the regional diversities. The variations are on account of other factors.
The 'Disposable Income' is compiled by deducting production expenditure from the farm family gross income. The farm family gross income is obtained by adding all the incomes from farm, Non-Farm resources and borrowings. The production expenditure included all the expenditure on cultivation and home produced inputs (having alternative market) used for cultivation during the year. The investments included farm, non-farm and household investments the main source of income of agricultural labour household in Ballia district is farm labour wages which account for 32.28 per cent in BANGAR, 27.30 per cent in DOAB and 34.56 per cent in KARAIL regions. The second most important source of income is income from crop production which account for 25.68 per cent in BANGAR, 24.62 per cent in DOAB and 24.33 per cent in KARAIL regions. The third most important source of income is service income from salary (Service) which accounts for 6.97 per cent in BANGAR, 10.38 per cent in DOAB and 770 per cent in KARAIL. Both on the basics of absolute income and on the basis of share there of the differences on account of ecological conditions of BANGAR, DOAB and KARAIL are substantial and significant.

Perusal of shows that the disposable income of 47945.80 per household in BANGAR is allocated to Rs. 39483.37 in consumption expenditure, Rs. 7728.86 in investments and Rs. 733.57 in savings. The disposable income Rs. 42084.59 in DOAB is allocated to Rs. 35418.39 in consumption expenditure, Rs. 5959.17 in investments and Rs. 707.03 in savings. The disposable income Rs. 37148.54 in KARAIL is allocated to Rs. 32724.15 in consumption expenditure, Rs. 3752.00 in investments and Rs. 672.39 in savings. It shows that besides disposable income the consumption expenditure per household and investments are higher in BANGAR region. However the
consumption expenditure to disposable income to 82.35 per cent in BANGAR, 84.16 per cent in DOAB and 88.09 per cent in KARAIL. It is important to note that the investment is higher in BANGAR, Rs. 7728.86 (16.12 per cent) followed by Rs. 5939.17 (14.16 per cent) in DOAB and Rs. 3752.00 (10.10 per cent) in KARAIL.

The term pattern Investment indicates the directions of flow of amounts of investment on amount spent in different items of farm capital expenditures. In absolute term farm investment in BANGAR is Rs. 5789.69, in DOAB Rs. 4788.79, in KARAIL Rs. 2859.77 per household. The relative share of farm capital investment in BANGAR in livestock is 39.92 per cent, implement and Machineries 21.21 per cent, Land 21.21 per cent, Development of Land 3.62 per cent, Irrigation resources and structures 12.08 per cent, farm house and cattle shed 2.01 per cent, and orchards and Plantations 4.27 per cent. In DOAB the farm capital expenditure in livestock is 32.92 per cent, employments and Machineries 13.73 per cent, land 32.55 per cent, land development 2.03 per cent, irrigation resources and structure 10.00 per cent, farm house and cattle shed 8.00 per cent, and orchards and plantation 0.77 per cent in KARAIL region the farm capital investment in livestock is 25.46 per cent, implements and machineries 16.43 per cent, land 41.71 per cent, land development 2.57 per cent, irrigation resources and structures 6.34 per cent, farm house and cattle shed 4.78 per cent, and orchards and Plantations 2.86 per cents.

On the basis of above discussion it can be observed that the levels of disposable income and directions and damnations of farm capital investments are affected by the ecological condition and consideration.