Summary
CHAPTER IX

SUMMARY

Indian agriculture is an economic symbiosis of crop and milk production. Historically, the role of livestock has been complementary to crop production. Rearing of live stock and crop production are bound together by a set of mutual input-output relationships. Animal rearing is not an adjunct to the crop-mix of Indian farms but is an integral part of the total farming system. Hence, treating animal rearing for milk as the backbone of the economy of our country would not be an exaggeration. Agriculture contributes nearly 33 per cent of the Gross National Product (GNP) of the country (1989-90). Significant strides have been made in Agriculture production towards ensuring food security.

It has been observed that the benefits of high yielding technology in agriculture have gone to large farmers having irrigation potential. Due to smaller resource endowments, small and marginal farmers were not able to benefit much from the advent of new high yielding technology. This resulted in under employment, lower productivity and lower income. Dairying is no exception to this phenomenon. Dairying thus, has been observed to be a capital intensive enterprise. The knowledge of socio-economic profile and resource availability of the farming house holds therefore essential for proper planning of scarce resources available for profitable agriculture with subsidiary enterprises i.e. animal rearing, milk and milk processing industries poultry enterprises etc.
The knowledge of absolute and relative profitability of each type of enterprises becomes an important issue for rational decision making on the farm. Cost and returns of crop and milk production vary among different types of farm, type of milch animals and also among different breeds and level of technology used. It is of immense importance for the farmers to know the comparative economics of production of crops and milk to make a proper decision for choice of varieties of and breeds of milk animals.

Milk production can be enhanced through (1) better feeding of the milch animals, (ii) Genetic improvement, and (iii) Animal's health care and better economic management, it has been observed that proper feeding alone could increase the milk production by 50 per cent. In the economics of milk production, feeds represent more that 60 per cent of the cost of milk. Among the variable feeds like roughages dry and green fodders and concentrates, the cost of concentrate constitute more than half of the feed cost. Cereals and grains constitute one of the important components of the concentrate. There is, therefore a competition for cereals for human consumption as well as for milk production. The demand for food grains is increasing exponentially with the increase in human population, where as the grain production is increasing at a slower rate than human population.

Considering what has been stated in the earlier paragraphs the present exploratory research work entitled “Employment and Income Generation from various enterprises in mixed farming system: an economic analysis in district Ballia of U.P.” was conducted. More specifically, the objectives of the present investigation are delineated hereunder.

1) To study and compare the economics of various enterprises maintained on different size of farms.

2) To examine the level of employment of human labour in various enterprises i.e. crop husbandry Animal husbandry and other allied enterprises on the farm.
3) To measure income generation from various enterprises maintained on the farm.

4) To study contribution of various enterprises in farm income of selected sample farms.

5) To measure the responsiveness of depended variable in various enterprises.

9.1 Methodology:

Sampling Technique:

Being an economically backward district Ballia has been selected for this study. Agriculture including animal rearing is the main enterprise of the inhabitants of the district. There are rare options for alternate source of labour absorption except agriculture. Animal rearing provides a best employment potential and besides producing milk and milk products, it stabilizes the farm income. In view of the abundance of Agriculture labour force due to high population density the crop cultivation and animal rearing are the most important avenues of labour absorption and income earning in this district. In view of the above mentioned factors district Ballia was purposively selected for the study. Multistage stratified, random sampling procedure was adopted for taking sample for this study.

1. Blocks: Out of 17 blocks in the district, 03 were taken randomly for the detailed survey. The sample blocks were Bansdih, Hanumanganj and Nagra.

2. Villages: Villages lying in the selected blocks were enlisted in respect of number of farming households with the help of block officials. Then after, a sample of 2 village from each selected block was taken randomly in the sample. Thus, six villages were in the sample for detailed study.

3. Farming Households: At the ultimate stage of sampling farming
households of each selected village were enlisted in respect of size of holding and number of milch animals reared with the help of village Lekhpal and Gram Pradhan. Those farming households were eliminated from the list who were not rearing milch animals. Thus, only milch animals rearing farm households were included in the final list for selection of sample. The farming households finally included in the list were stratified in respect of size of holding. Then after, about 15 farming holds from each selected village were taken randomly in the sample with proportional distribution on the strata of various groups of size of holdings. Thus, 94 farm households were taken in totality for detailed study.

**Method of Analysis**

Tabular and cross-sectional statistical tools were used in the present study to analyse the collected data. Presentation of averages, standard deviation coefficient of variation etc. were based on Tabular analysis.

1. Significance of mean difference was tested by Fisher's 't' test using following formula–

\[
t = \frac{X_1 - X_2}{\sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}
\]

\[
d_{c^2} = \frac{\sum (X_1 - \bar{X}_1)^2}{(n_1 - 1)} + \frac{\sum (X_2 - \bar{X}_2)^2}{(n_2 - 1)}
\]

\[
d_f = (n_1 - 1) + (n_2 - 1)
\]

2. For cost and Return analysis of different enterprises maintained on the sample farms concept used in farm management studies were adopted in the tabular analysis.

3. *Estimation of Output*: Farm output from different enterprises was estimated by multiplying the quantities of output from different sources by
their respective market prices and then adding the farm output from each enterprise the gross farm output was estimated in respect of each farm size group.

4. To study farm income derived from various enterprises kept on the farm, concepts of different type of farm income used in farm management studies were adopted.

5. To estimate responsiveness of resultant factor to explanatory variables in each of the enterprises maintained on the farm, cobb-Douglas Production function was used.

9.2 Working force:

Working population was noted to be 3.06 for male and 2.46 for female per family on the sample farms. By size groups it was respectively 3.17, 2.66, 3.10 and 3.8 for male and 2.44, 2.33, 2.4 and 3.0 for females.

9.3 Irrigational Status:

The maximum area under irrigation was ranging between 85 and 94 per cent on respective group of marginal, small, medium and large farms. Tubewells and canals were providing irrigation facilities on the sample farms. Among the two Tubewell are providing irrigation to the major portion because of limited command area of canals.

9.4 Milch Animals on the Sample Farms:

There are 128 cows, 105 buffalo, 125 calves and 108 heifers are there on the total farms. The distribution of milch animals on size group of farms was of 149, 170, 96 and 49 animals on the respective size groups of marginal, small, medium and large farms.

9.5 Farm Assets:

Scrutinizing by items of assets it is observed that plough wooden and iron, kudali, spades, thresher, chaffeutter, tubewell and pumpsets, are
maintained on all the farms groups in the sample, cultivators, herrow, tractor and tractor trolley are maintained only on medium and large farms. Though, the maintenance of wooden and iron plough, seems to be irrelevant due to absence of bullock power on the sample farms. But, it is the fact that bullock power has now been eliminated from the farm assets on the sample farms.

Thus, ploughing on all the farm size groups has become mechanised and use of tractors in all the seasons of kharif, rabi and zaid has become common on the sample farms in particular and in the farming system in general. So far as buildings on the sample farms are concerned all the farm groups of sample households are maintaining cattlesheds & stores besides residential houses on their farms.

9.6 Assets & Equipments for Milch Animal Rearing:

Major portion of dairy asset as covered by the values of milch animals which is 82 per cent on all the size group of farms, where it ranges from 59 to 88 per cent on the size groups of sample farms. Values of cattle shed and other constructions are on the second place i.e, 10 per cent. in total and in the range between 6.80 to 19 per cent on the size groups of farms. Equipment are 7 per cent on all the farms, where 4 to 11 per cent assets are allocated for equipments on the size groups of sample farms.

9.7 Cropping Pattern:

The cropping intensity on overall sample farms pertains to be 172 per cent. By size groups it is the highest 261 per cent on marginal and the lowest 162 per cent on the large farms. By cropwise observation it is found that the whole cropping pattern is more or less centralised around paddy and wheat cultivation throught the year. These two crops are covering about 60 per cent of cropped area on all size group of farms.

Among other kharif crops Arahr and maize are covering substantial area on all sample farms. Besides these Jowar, Bajra and Vegetables are also
grown on the sample farms. Arahr is covering about 12 per cent of cropped area on medium and large farms. In case of rabi crops sugarcane, Berseem and vegetables are being grown on all the sample farms. Among which sugarcane and Berseem are the next in order. Other pulses, oilseeds and barley are disappeared from the cropping pattern showing total elimination of these pulses and oilseeds from the sample farms. Taking into account the zaid crop we noted that maize, M.P. Cheri and vegetables are being taken on all size groups of sample farms.

Besides these crops grown on the sample farms it is noted the elimination of coarse grains such as Sawan, Kodo in Kharif and Pea, Gram, Oilseeds and barley in rabi.

9.8 Human Labour Employment:

By and large collating both the farm enterprises for creation of man days it was noted that rearing of milch animals is more labour intensive than crop enterprise. Milch animal rearing was found better on this account on marginal and small farms where dairy was creating 325 and 400 days per farm per annum in comparison to 210 and 275 respective days in crop husbandry. On medium farms both the enterprises are equally contributing to the human labour employment with 365 days in dairy and 358 days per farm per annum in crop husbandry. Large farms were found least interested in man days creation. Crop husbandry is creating 498 days per farm per annum on large farms where milch animal rearing is creating 385 days per farm per annum on large farms of sample households.

9.9 Crop Expenses:

Expenses of crops have direct bearing on profitability of crops. Expenditures on various components of costs is the subject of management of cultivation of a specific crop. In reference to measure the profitability of various crop cultivation on the sample farms this analysis of crops expenses
was made herewith. The estimates of cost of cultivation and cost of production of various crops on sample farms are presented in table 5.3 as well as the crop expenses on various components of costs are shown in the appendices I to VII. It is observed that cost of cultivation of paddy is ranging between Rs. 4403.044 and Rs. 4955.48 per acre on various size groups of sample farms. In case of wheat the cost of cultivation pertain to be Rs. 4674.60 per acre on marginal farms where on small, medium and large farms it was Rs. 5060, 5680 and 5575.85 per acre respectively. The cost of cultivation for Maize was found Rs. 1280, 1405, 1455 and 1615 per acre on the respective size groups of marginal, small, medium and large farms.

Scruitinizing the cost of cultivation by various ingredients of cost it was seen that cost components were the cost incurred on seed, manure, fertilizer N.P.K., irrigation insecticides, tractor charges harvesting & threshing, human labour charges and overhead cost. Among these cost components seed fertilizer especially phosphatic fertilizers, irrigation, tractor charges, harvesting and threshing and human labour charges, were found to be the items of cost occupying about 90 per cent or more to the total cost in case of paddy wheat and sugarcane on all size groups of farms in the sample.

9.10 Crop Returns :

Crop returns are derived from the production of main and bye products of various crops grown on different size groups of sample farms. Thus, physical products and value of various crops are presented in appendix VIII. It is observed that production of main product of paddy was 11.5 qtl. per acre on marginal farms, 12 qtl on small, 10.5 qtl on medium and 10 qtl per acre on large farms. By products of paddy vary between the range of 10.12 to 18 qtl. per acre. Main product of Maize was ranging from 3.5 qtl. per acre to 4.85 qtl. per acre on various size groups of sample farms. The bye product of this crop was in the range from 18 to 25 qtl. per acre on different size groups of farms. Jowar was grown on marginal and medium farms only.
where its main product was respectively 5.4 and 4.3 qtl per acre. Its bye product was respectively 30 and 25 qtl per acre Bajra was being cultivated on marginal, small and medium farms where its respective production of main products was 8.25, 7.25 and 7.00 qtl per acre while of bye product was 30, 28 and 25 qtl per acre. Arhar was found cultivated by all size group of sample farms where its production of main product was ranging from 5.5 qtl. per acre to 6.5 qtl per acre and bye product was in the range between 6.00 and 7.5 qatl. per acre on various size groups of sample farms. Wheat production was found respectively 10.5, 9.75, 9.65 and 9.8 qtl. per acre as also bye product was 12.00, 10.5, 10.00 and 8.00 qtl. per acre on marginal, small, medium and large farms. Sugarcane was being produced only on small, medium and large farms where its production was respectively 150, 170 and 150 qtl per acre. Marginal farmers were found not producing this crop because of their uneconomic size of holding for cultivation of this crop.

Analysing the picture of crop cultivation it is observed that among all the kharif and rabi crops though a general trend of crop centrality is found around paddy and wheat. But on the economic parameters these crops are found not much remunerative crops, because heavy expenses on their cultivation. Whereas Arhar, Bajra and Jowar are seen to be cheap in cultivation as well as these are proved to be remunerative crops for cultivation. Per acre net returns are for better in Arhar, Jowar and Bajra than wheat, paddy and maize. Sugarcane though is found remunerative but this is also an expensive crop for cultivation. Being commercial crop sugarcane is found to be remunerative but its requirements for input and labour is too much expensive therefore area under this crop is continuously decreasing. Despite of economic profitability in cultivation of Arhar, Jowar and Bajra farmers are not allocating much area under these crop because of certain reasons and risk involved in their cultivation. Paddy and wheat despite of expensive
crops in cultivation and low remuneration are accepted by mass of farming population and maximum area is being allocated under these two crops.

9.11 Functional Estimates in Crop Production:

By & large it can be noted conclusively that still there is chance of increase in crop output on the sample farms with proper management of input factors with increased level of application of all inputs in general and organic manure in particular. Because in current trend of agricultural practices organic manure has been eliminated from the farming scene. As a result of no use of organic manure in cultivation of crops the problems of soil structure are visibly noted caused by continuous use of chemical fertilizers and pesticides for a long period.

9.12 Number of Milch Animals in various lactations:

It is observed that among cows the number of animals on the whole sample farms in the first, second and third lactations were respectively 19.53, 32.81 and 47.65 per cent to the total number of cows on the sample farms. Whereas among buffaloes the number of animal in I, II and III lactation were 38.57, 39.04 and 32.38 per cent respectively. Scrutinizing the picture by various size groups of sample farms it is noted that cows on marginal farms were 23.52, 35.29 and 41.17 per cent in respectively I, II and III lactations where on small the respective percentage is 12.76, 31.90 and 55.31. This per cent share on medium farms pertains to be 22.58, 29.03 and 48.38, while on large farms it is noted to be 25.00, 37.50 and 37.50 per cent in respective I, II and III lactations.

In case of buffaloes the number of animals in I, II and III lactations on marginal farms pertain to be 33.33, 38.46 and 28.20 per cent to total number of animals in this group. Whereas on small size group of farm the percent share of various lactation pertains to be 23.68, 42.10 and 34.21 in I, II and III lactations. On medium farms the respective share of various
lactations is noted to be 33.33, 22.22 and 44.44 per cent. On large farms this was noted be 20.00, 60.00 and 20.00 per cent respectively.

9.13 Number of Lactation Days of Milch Animal:

It is observed that lactation days among cows were 315, 330 and 305 days in respectively I, II and III lactation on marginal farms. On small farms it was respectively 320, 310 days in respective lactations and 300, 305 and 310 on medium farms. On large farms it pertains to 295, 300 and 315 days in respective I, II and III lactations.

In case of buffaloes the lactation days on marginal farms were noted to be 340, 325 and 340 days in respective I, II and III lactations. Where on small farms the lactations days were respectively 320, 330 and 315. On medium farms these figures were respectively 280, 305 and 290 days as well as 285, 300 and 295 days in respective I, II and III lactation were found on large farms.

9.14 Milking Animals in Different Stages of Lactation:

Each lactation was classified into stages of milk production i.e, from the date of calving upto 3 months, 3 to 6 months, 6 to 9 months and more than 9 months. Calving point is denoted by zero for the purpose of classification of lactations into its stages. It is expected that level of milk production of milch animal increases upto 3 months from the date of calving. Within 3 to 6 months the maximum level of milk production remains maintained. Within the period of 6 to 9 months the tendency of diminishing starts gradually and in the last stage of more than 9 months the level of milk production reaches at minimum. Therefore for the purpose of further analysis of milk production and estimation of cost and returns each lactation of a milch animal was classified into 4 stages of milk production based on the months of milking starting from the date of calving and ending with the end of lactation days.
9.15 Expenses on Rearing of Milch Animals :

Expenses on rearing of milch animals assume importance in the present trend of rearing animals in rural area of the country. In traditional and old trend milch animals particularly cows were being reared depending mostly on grazing practices. Though, the grazing of cows in rural area is still continued but farmers are now adopting new trend of feeding milch animals because of changing aptitude of farming population towards rearing of milch animals. Now a days milch animals rearing has adopted a commercial tune in the rural area. Therefore, feeding practices have been changed for rearing of milch animals for commercial purposes. Simultaneously, availability of feeding materials i.e., Chokar and Nutritive foods for milch animals has become common in rural area. These feeds are easily available in local market, on easy approach of the farming population. All these situations have been resulted into feeding of milch animal in scientific method and commercial rearing. Thus, feeding practices for cows and buffaloes were analysed and presented herewith.

Taking an overview of the whole picture it is observed that by and large the rearing cost of cows ranges between Rs. 17.11 and Rs. 20.13 per animal per day, whereas for buffaloes the cost pertains to be ranging between Rs. 18.00 and Rs. 23.65 per animal per day. By items of feeding observations reflect that green fodder was almost equal for both the milch animals particularly ranging between 11.56 and 14.65 per cent for cows whereas for buffaloes it ranges between 12.44 and 15.22 per cent to total cost. Dry fodder was also almost equal for both ranging between 11.15 to 14.00 per cent for cows as well as 10.65 to 14.91 per cent for buffaloe. Concentrates comprising grains, oil cakes, choker and nutritive foods are having substantial share in feeding cost of milch animals. It is 38.69 to 42.65 per cent for cows and 38.05 to 47.25 per cent for buffaloe on various size groups of sample farms. Next in order of share was the labur charges for maintenance of milch animals.
which was noted to be ranging between 18.89 to 20.17 for cows and 15.05 to 19.79 per cent for buffaloes. Rest items are almost equal for both the milch animals reared on various size groups of sample farms.

9.16 Milk Production:

Milk production is an outcome of maintenance of a milch animal. It is also the subject of lactation number as well as stages of lactations. For the purpose of detailed analysis of trend of milk production on sample farms each lactation was classified into four stages i.e., from the date of calving till 3 months, 3 to 6 months, 6 to 9 months and more than 9 months. The details of milk production on sample farms is presented in table 7.6. It is observed that milk production of cows during whole lactation days as an overall was noted to be 6.63 litre per animal per day in I lactation on marginal farms where 8.2 and 6.68 litre per animal per day was noted in II and III lactation respectively. On small farms cows milk production was found to be 8.92, 9.07 and 9.27 litre per animal per day as a whole in the respective I, II and III lactations. The same on medium farms was noted to be 8.84, 9.37 and 8.43 litre per animal per day in respective lactation. In case of large farms the overall milk production was found to be 10.65, 9.56 and 6.48 litre per animal per day in I, II and III lactations respectively.

Looking overall situation of buffaloe milk production per animal per day 7.00, 6.78 and 6.97 litre was respectively noted in I, II and III lactations on marginal farms. Where it was 7.49, 8.31 and 5.32 litre on small farms, 6.53, 7.14 and 7.00 litre on medium farms. In large farms case 7.50 litre per animal per day was noted in I lactation and equally 7.00 litre was found in II & III lactations.

9.17 Cost and Returns of Milch Animal Rearing:

Returns from milch animal rearing comprises the returns from various items of animal products i.e., milk, milk-products, and dung. The cost of
animal rearing already described in first part of this chapter comprises costs on material items, labour charges and over head cost. Thus, net returns from animal rearing is the subject of analysis of returns from all the products of animal rearing and cost on various items of expenses. Therefore, the cost and returns of milch animal rearing on the sample farms were analysed and presented in table 7.7. The net returns from cows on marginal farms are noted to be Rs. 70.19, 89.34 and 70.89 per animal per day in respective I, II and III lactations. In case of small farms the return pertains to be Rs. 97.91, 94.16 and 101.21 in respective lactations. On medium farms it is respectively Rs. 94.52, 98.82 and 90.67 per animal per day, whereas on large farms Rs. 113.16, 107.26 and 66.46 is noted for the respective lactations of I, II and III.

Total returns from milch animal rearing is comprising the income from sale of milk & milk products and the estimated value of dung. Thus total returns were noted to be Rs. 87.30, 106.45 and 88.00 per animal per day on marginal farms, Rs. 105.70, 111.95 and 119.00 on small, Rs. 114.65, 118.95 and 110.80 on medium and at last Rs. 132.75, 126.85 and 86.05 per animal per day on large farms in respectively I, II and III lactations. The total cost on cow's rearing was estimated to be Rs. 17.11 per animal per day on marginal farms. Rs. 17.79 on small, Rs. 20.13 on medium and Rs. 19.39 per animal per day on large farms.

Looking the case of buffaloe rearing the net returns were noted to be Rs. 90.50, 88.08 and 79.50 per day per animal in respective I, II and III lactations on marginal farms. It is Rs.93.48, 102.75 and 75.36 on small farms, Rs. 80.35, 90.44 and 85.87 on medium farms and lastly Rs. 74.60, 82.98 and 79.05 per animal per day in respectively I, II and III lactations on large farms. Total returns from buffaloe rearing are also comprising the value of selling of milk & milk products and estimated value of dung. Thus, total returns from buffaloe on marginal farms were noted to be Rs. 108.50,
106.08 and 97.57 per animal per day in respectively I, II and III lactations. It is in case of small farms noted to be Rs. 113.64, 122.91 and 95.52 per animal per day. In case of medium farms it is Rs. 102.73, 112.82 and 108.25 as also on large farms these are Rs. 98.25, 106.63 and 103.50 per animal per day in I, II and II lactations respectively. The cost of rearing buffaloe on sample farms comprising material, cost, labour charges and overhead cost is noted to be Rs. 18.00, 20.16, 22.38 and 23.65 on respectively marginal, small, medium and large farms.

9.18 Functional Estimates:

The above observations are the clear indicative of the facts that there is still chance of increase in the level of buffalo milk production by proper management of feeding and supply of nutritive feed to the milking buffalo. Further, maintenance of buffalo in particular and milch animals in general will contribute to the farm income on one end and support to crop cultivation by supply of organic manure on the other.

9.19 Disposal of Milk:

Milk disposal is the subject of structure and aptitude of the households. Traditionally selling of milk was not common in rural area of the country. It was related with certain community. But with the change in economic scene of the rural area now aptitude of all the farming community has been changed and selling of milk has been adopted by majority of the rural mass. Thus, dairy industry is now getting impetus growing in the rural area. Simultaneously with the introduction of milk co-operative society for white revolution in the country the scene of rural area is changing in favour of dairy industry. Milch animal rearing and selling of milk have now been accepted by mass of the farmer's family of the country. Now with the facility of milk marketing through milk co-operative societies the selling of milk has become generous and accepted by mass of rural households. Therefore, the analysis
of disposal of milk on sample farms is presented in table 7.8. It is observed that per households milk production pertains to be 400.42, 496.94, 707.96 and 1408.67 litre on respectively marginal, small, medium and large farms. Scrutinizing disposal of produced milk the home consumption was noted to be 25 per cent of produced milk on marginal farms, 30.24 per cent on small, 42.43 per cent on medium and 63.92 per cent on large farms. Selling of milk was found common among all the sample farms. The milk was being sold in the market directly and through milk traders. Milk selling through milk traders was found pertaining to 31.25, 30.24, 32.05 and 25.43 per cent to total produced milk on respective size groups of marginal, small, medium and large farms. Selling of milk in the direct market was common only among marginal and small farmers who have sold respectively 18.75 and 15.32 per cent to total produced milk. Conversion of milk into dahi and ghee was in practice among the sample farmers. Thus, about 20, 18.15, 15.56 and 9.94 per cent to total milk produced was converted into products on respectively marginal, small, medium and large farms. Social purposes are equally important in rural area. Therefore about 5 per cent on marginal, 6 per cent on small, 4.99 per cent in medium and 2.84 per cent on large farms were used for social cause.

9.20 Mixed Farm Returns:

Crop husbandry and milch animal rearing have remained equally important enterprises of rural mass of the country. From primitive age both were commonly raised by the rural mass being as supplementry enterprises to each other. Both the enterprises were integral part of rural life from the time immemorial. Traditionally milch animals were being reared in rural area in accordance with the family need. Common farmers were not rearing milch animals for commercial purposes. Milk selling was not accepted by common rural people due to social cause. It was treated as sub-standard activity in rural life and against social dignity. Now with the changing structure of society and expansion of disposal of milk on sample farms is presented in table 7.8. It is observed that per households milk production pertains to be 400.42, 496.94, 707.96 and 1408.67 litre on respectively marginal, small, medium and large farms. Scrutinizing disposal of produced milk the home consumption was noted to be 25 per cent of produced milk on marginal farms, 30.24 per cent on small, 42.43 per cent on medium and 63.92 per cent on large farms. Selling of milk was found common among all the sample farms. The milk was being sold in the market directly and through milk traders. Milk selling through milk traders was found pertaining to 31.25, 30.24, 32.05 and 25.43 per cent to total produced milk on respective size groups of marginal, small, medium and large farms. Selling of milk in the direct market was common only among marginal and small farmers who have sold respectively 18.75 and 15.32 per cent to total produced milk. Conversion of milk into dahi and ghee was in practice among the sample farmers. Thus, about 20, 18.15, 15.56 and 9.94 per cent to total milk produced was converted into products on respectively marginal, small, medium and large farms. Social purposes are equally important in rural area. Therefore about 5 per cent on marginal, 6 per cent on small, 4.99 per cent in medium and 2.84 per cent on large farms were used for social cause.

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of milk marketing facility due to introduction of co-operative movement in dairy the aptitude of farming population is changing day by day. Dairy has become a potential source of income in rural area and being reared on commercial scale. Therefore a comparative picture of crop husbandry and dairy sector was presented in this chapter. Table 8.1 consists returns from crop production and milch animal rearing on the sample farms. Comparing crop husbandry and dairy enterprises we noted that milch animal rearing proves to be more remmunerative than crop husbandry. Income from cows and buffalo rearing contributes to the farm income by 73.58 per cent on marginal farms, 70.33 per cent on small, 70.91 per cent on medium and 76.26 per cent on large farms. In comparison to it crop husbandry stands on 26.64, 29.67, 29.06 and 23.74 per cent to total farm income on the respective size group of farms. Among milch animals cows and buffaloe both are having about equal level of contribution to the farm income. Cows are contributing by 93.92, 115.55, 114.8 and 115.22 litre per day on respectively marginal, small, medium and large farms, where buffalo contributions pertain to be 104.05, 110.69, 107.93 and 87.25 litre per animal per day on the respective size groups of sample farms.

Thus, by and large the facts floating from the analysis are briefed as under—

i) Milch animal rearing is more remmunerative than crop husbandry.

ii) Dairy contributes to the farm income on one end and supplement to the crop husbandry by supplying organic manure on the other.

iii) Majority of the farming community are having marginal and small size of holding which are uneconomic for cultivation of expensive crops such as paddy, wheat, sugarcane etc. Milch animal rearing being more remmunerative and providing high level of employment to family members proves a beneficial enterprise on these farms.

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