INCOME AND EMPLOYMENT GENERATION IN ALTERNATIVE FARMING SYSTEMS :
A STUDY OF CENTRAL BRAHMAPUTRA VALLEY ZONE OF ASSAM

VII

SUMMARY AND CONCLUSION
Agriculture continues to occupy a pre-dominant place in the economy of Assam and the farmers living in rural areas constitute the backbone of Assam agriculture. However, the socio-economic standard of this huge segment of rural population is far from satisfactory mainly due to under-utilization of available resources, unemployment and underemployment, low per capita income and poverty. Therefore, the concept of diversified farming system becomes very relevant in the present context. The primary objective of farming systems is to maintain a level of self sufficiency in food production and gain net return with creating employment opportunities.

The present study tries to identify the existing farming systems, analyze the land use pattern, examine the economics of different components of farming system and resource use efficiency level of the field crops of different categories of farmers, and their
resource reallocation to develop optimal plans suitable for this study area with an objective of generating more income and employment opportunities through farm diversification. Also an attempt is made to see how farm's net income and employment generation opportunities can be increased through alternative farming system. Moreover, the study tried to identify the constraints underlying agricultural diversification and suggested measures to overcome the constraints of the Central Brahmaputra Valley Zone of Assam.

7.1 Summary

For the purpose of analysis, the entire study is divided into seven chapters including conclusion. Brief summary of each chapter are given below:

The first chapter 'INTRODUCTION' starts with statement of the problem of the study. By way of introduction certain matters have been focused such as the concept of farming system or farm diversification along with the problems and prospect thereof in general and also, the specific problem under the study explained in
brief with reference to the study area. The chapter also deals with an enumeration of specific objectives, hypothesis, research question, likely contributions of the present study and limitations of it. Further the chapter was concluded with mentioning of reference year of the study.

The concept of farming system is presented in this chapter. Farming system is more or less stable arrangements of farming or agricultural activities managed by a farm household. Farming systems ecologically and socio-economically not only involve crop production but are also dependent upon their integration with other enterprises like animal husbandry, horticulture, vegetable production, piggeries, apiculture, fisheries, goatery, poultry, sericulture and agro-forestry. The concept of farming system takes into accounts the components like soil, water, crops, livestock, labour and other resources available with farm families.

It is obvious that agriculture is a diversified field of activity which encompasses a number of farming activities, viz., crops, animal rearing and homestead plantation. Combination of one or
more enterprises with cropping when carefully chosen, planned and executed (selection of proper mix and judicious allocation of scarce farm resources) provides greater dividends than single enterprise especially for marginal and small farmers with large surplus farm labour and big human force. The term of alternative farming system is associated with different farming alternatives available to farmers with farming diversification. Thus to improve the standard of living of farmers and to stabilize the income flow, diversification of crops and enterprises emerges as a major strategy. The present study is confined to the best alternative farming system with diversification within agriculture, i.e., combination of crop and livestock enterprises which increase the farm’s net income and employment generation. The objective, hypothesis and research question are chalked out in this chapter as follows:

7.1.1 Objectives

i) To identify the existing farming systems and analyze land use pattern of different categories of sample farmers in the study area.
ii) To evaluate the economics of different components of farming system, practiced by the farmers in the study area.

iii) To assess the resources use efficiency level.

iv) To develop optimal plan through resource reallocation for increasing farm income and employment opportunities.

v) To identify the constraints for diversification of farming activities and to suggest suitable policy measures, if any.

7.1.2 Research Question

The main research question of the study is whether diversification can be used as a strategy for increasing farm’s net income and employment generation?

7.1.3 Hypothesis

The hypothesis of the study is that the farms’ net income and employment opportunities can be increased through alternative farming system.
In the second chapter ‘REVIEW OF LITERATURE’, an effort has been made to undertake a review of existing research literature in connection with present study, mainly on the aspects like characteristics of farming systems, economics of the different components of farming system, scope for diversification, constraints for diversification of farms, etc.

The third chapter ‘RESEARCH SETTING’ presents the research setting of the present study in question along with background information about the area as illustrated by map and acquired facts and figures from secondary sources. The study was conducted in purposively selected Central Brahmaputra Valley Zone of Assam.

The fourth chapter ‘RESEARCH METHODOLOGY’ has dealt with the methodologies adopted during preparatory and actual field study. A multi-stage random sampling technique was adopted to select the block, village and sample farmers. Central Brahmaputra Valley Zone (comprising of two districts i.e., Marigaon and Nagaon) was selected purposively because in this zone, the farmers are
adopting different farming systems in their farming business. At first stage, ten per cent blocks out of the total number of blocks from each district were selected. Therefore, among five blocks, one block (Mayaon development block) was selected randomly in Marigaon district and two blocks (Batadrava and Rupahi development blocks) were also randomly selected out of eighteen blocks in Nagaon district. In the second stage, five numbers of villages were selected from each selected block, where farmers integrate different enterprises with crop husbandry. In third stage, a list of farmers of the identified villages was collected from the published sources (Revenue department, Agricultural department etc.) and fifteen farmers from each village were randomly selected. A total of 225 farmers (Marginal – 96, Small – 68, Medium – 41 and Large – 20) were selected randomly from the universe of fifteen villages. These farmers were grouped according to land holdings they posses. The data were collected from the sample farmers for the agricultural year 2010 – 11 through personal interview method with
the help of pretested questionnaire and schedule. Both primary and secondary data were collected for the study.

The following are the analytical tools for discussing the above mentioned objectives:

i) Tabular analysis was used to identify the existing farming systems and analyze land use pattern across various size groups in the study area.

ii) BCR technique was used to evaluate the economics of different components of farming system, practiced by the farmers in the area.

iii) C-D production function was used to assess the resources use efficiency level.

iv) Linear programming technique was utilized to develop optimal plan through resource reallocation for increasing farm income and employment opportunities.

v) 10 point scoring table was used to rank the constraints on the way of diversification of farming activities.
In chapter five titled, ‘FINDINGS AND DISCUSSION’ findings have been presented and discussed. The following are in brief the salient findings of the study based on the analyses of the data collected.

7.1.4 Socio-Personal Variables

The farm family size and the distribution of sample population according to age and sex shows that the average family size was found to be 4.79, 5.43, 6.27 and 7.70 for marginal, small, medium and large farmers respectively and overall average family size was 5.51 of the study area. This shows that larger farmers had slightly bigger family size than medium farmers followed by small farmers and marginal farmers. Composition of family members according to age group showed that in each category of farmers, more than 42.00 per cent of total sample population belongs to 15 – 44 years age group. Further, the distribution of population according to sex when observed, was found that the proportion of male and female members were approximately equal in small category
farmers, i.e., male member comprised of 50.68 per cent and female members 49.32 per cent. In the other three categories of farmers, male members exceeded the female members. Marginal category farmers had 52.39 male and 47.61 per cent female members. Again, the ratio of male population to female population was found to be 55.64: 44.36 per cent in medium category and 51.95: 48.05 per cent in large category, while the over-all ratio of male to female population was 52.50: 47.50 per cent in the study area.

Education is measured in terms of percentage of literacy. The literacy percentage so estimated was 76.04, 77.94, 73.17 and 75.00 per cent for marginal, small, medium and large categories of farmers respectively and the overall literacy percentage was 76.00 per cent of the study area which is higher than the state average i.e., 73.18 per cent. Though literacy percentage was higher in each category of sample farmers, it was confined only to the lower level of education, i.e., upto high school level, as very few percent of family member having education above graduation to supplement income through service outside the farm.
The majority of the sample farmers belonged to nuclear families i.e., 75.00, 66.18 and 53.66 per cent as against joint family i.e., 25.00, 33.82, 46.34 per cent under the categories of marginal, small and medium respectively. It was a different picture observed in the category of large farmers where 40.00 per cent of the families were nuclear, while 70.00 per cent were joint. In the study area, total percentage of nuclear family was 65.33 per cent and that of joint family was 34.67 per cent. It is noteworthy to be mentioned here that the overall picture reflects that the social orientation in rural villages in Central Valley Zone of Assam is changing and the practice of joint family system is slowly breaking. As consequence, the large holding size of the farmers is also reducing.

7.1.5 Socio-Economic Variables

The total operational lands available for marginal, small, medium and large categories of sample farmers were 74.64, 72.87, 82.40 and 80.01 hectares, respectively. The average sizes of land holding for marginal, small, medium and large farmers were 0.78,
1.07, 2.01 and 4.00 hectares, respectively. The average size of operational land holding was 1.38 ha which signifies that on an average the size of operational land holding of the farmers was above the state average which was only 1.11 ha for the year of 2005-06. The study of operational land showed that marginal farmers had no leased-out land and large farmers had no leased-in land, whereas small and medium farmers had both leased-in and leased-out land. The percentage of leased-out land is more as compared to leased-in land in case of small and medium farmers. This is because of fragmented holding of land and managing of fragmented holding, long distance holdings were leased-out and short-distance holdings of others were leased-in to some extent.

The available land resources were used for dwelling houses, shade of livestock/birds and plantation crops and rest was used as operational holding. Thus, the total land available for use in marginal, small, medium and large farmers were 82.60, 85.08, 95.81 and 89.44 hectares respectively as is evident from the table. On an average the size of land use pattern was 1.57 ha of the study area.
The availability of farm level resources like land, bullock labour, machine labour, agricultural tools and implements determine the level of adoption of technology in farm's field crops operations. In fact it is an index of agricultural development. The costs of the resources were annualized and it was measured by the formula: the annual capital value of the item = total cost of capital item / numbers of life-expectancy years of the item. On an average, the total value of all tools and implements of all the farm size groups stood at Rs. 1324463.81. The capital value per household (Capital value PHH) varied between Rs. 16574.62 to Rs. 43574.77 with an overall average of Rs. 28630.28.

7.1.6 Existing Farm Plans

The existing farm plans of the sample farmers revealed crop-based farming diversified with livestock activities. Field crops like Sali paddy local & HYV, Kharif pulse & vegetable: pulse and vegetable, mustard and potato in rabi season, whereas Summer paddy (local & HYV) and jute in summer season were grown by the
sample farmers. Paddy (Sali paddy local & HYV and summer paddy Local & HYV) is the dominating crop, covering 58.29 per cent area out of the gross cropped area, followed by vegetables (kharif veg. & rabi veg.), pulses (kharif pulse and rabi pulses), mustard, jute and potato in the central valley zone of Assam. The resulting cropping intensity were 175.64, 170.09, 161.19 and 150.25 per cent respectively under the categories of marginal, small, medium and large farmers, with over-all cropping intensity of 158.27 per cent in the study area.

Dairy, goatery, poultry and pigeon were the livestock/birds which were reared by the sample farmers in the study area. The sample farmers diversified the crops with livestock activities but the extent of diversification was very low. This indicates the fact that diversification prevailed but not because of supplementing farmers’ income from crop enterprises but because of tradition and to some extent for meeting the daily requirements only.

The study also revealed that 60 to 71 per cent of total income of the farmer comes from field crops alone. The contribution of
livestock towards the total income of the sample farmers was 21 to 32 per cent and plantation crops contributed 4 to 7 per cent of the total income. Thus it shows less contribution of livestock/birds in total income and indicates the need for higher degree of diversification of sample farmers’ farming practices for increasing their income level. The over-all contribution of field crops, livestock/birds and plantation were 67.07, 26.72 and 6.21 per cent respectively.

Among livestock enterprises, dairy cow occupied the first position by contributing 11.47, 8.83, 23.40 and 16.91 per cent of the total net return in marginal, small, medium and large category of farmers, respectively. Pigeon was accounted to be least important birds, which contributed only 2.02, 1.67, 1.03 and 0.79 per cent of the total net return in marginal, small, medium and large category of farmers.

Thus, total net return realized in existing farm plan by marginal, small, medium and large farmers respectively were Rs.19818.08, Rs.26588.83, Rs.55440.66 and Rs.94331.36,
respectively. The share of crop component in different category of farmers was 69.16, 73.39, 61.89 and 70.77 per cent for marginal, small, medium and large category of farmers respectively. Livestock/birds component of the existing plan contributed 27.73, 21.55, 33.51 and 25.11 per cent of the total net return for marginal, small, medium and large category of farmers respectively. The overall net return was Rs.49044.73 in the study area.

There were 181.41, 285.77, 533.20 and 1025.06 mandays employed for marginal, small, medium and large farmers respectively, which was below the availability of 503.31, 552.41, 763.52 and 1259.10 mandays for marginal, small, medium and large farmers respectively. This shows that a sizeable amount of farm family labour remained unemployed under the existing farm plans in all the categories of farmers. Out of the total human labour utilization, the share of field crops, livestock/birds and plantation crops were 78.76, 18.46 and 2.78 per cent for marginal farmers. The corresponding figures for small farmers were 81.51, 15.39 and 4.10 per cent; for medium farmers were 71.85, 23.59 and 4.56 per cent.
and for large were 79.43, 16.80 and 3.77 per cent respectively. Field crops absorbed the maximum human labour in each category of farmers as it was the major component of farming. In case of crop enterprise, the proportionate shares of all the categories of farmers were above 71 per cent but in case of livestock, the utilization was just the opposite. It was 18.46, 15.39, 23.59 and 16.80 per cent in marginal, small, medium and large farmers respectively. This might be due to the fact that the marginal, small, medium and large farmers gave more emphasis only on field crops. The over-all share of the study area was 77.67, 18.40 and 3.94 per cent under the category of field crops, livestock/birds and homestead plantation crops respectively.

7.1.6.1 Identification of the Farming Systems / Forms of Diversification

There are altogether six major types of farming systems identified among the sample farmers and four types of farming systems were common to all the categories of farmers. Further, crop
and dairy cow is the common to each farming system. These systems were as under:

FS 01: Crop + Dairy cow

FS 02: Crop + Dairy cow + Goatery

FS 03: Crop + Dairy cow + Goatery + Poultry

FS 04: Crop + Dairy cow + Duckery + Pigeon

FS 05: Crop + Dairy cow + Goatery + Duckery

FS 06: Crop + Dairy cow + Poultry + pigeon

Four types of farming system (FS 03 to FS 06) were common among the large sample farmers out of the six major types of farming systems. In regards to the extent of adoption of various farming systems/forms of diversification amongst the sample farmers, it was observed that FS 02 farming system was found to be the most important, i.e., 26.22 per cent sample farmers practiced this form of farming system in the study area. This was followed by FS 01 farming system which was practiced 18.22 per cent sample farmers; then comes FS 03 farming system that was practiced by 16.89 per cent of the sample farmers; FS 04 & FS 05 farming
systems were followed by 14.22 per cent each and FS 06 farming system was practiced by only 10.22 per cent sample farmers in the study area. Further it was observed that FS 01 farming system was not practiced by medium, while FS 01 & FS 02 farming systems were not practiced by the large farmers.

It is clear from the above findings that FS 02: Crop + Dairy cow + Goatery farming system was highly preferred by the marginal and small farmers, whereas medium and large farmers mainly preferred FS 03: Crop + Dairy cow + Goatery + Poultry farming system. Results are indicative of the fact that there was relatively greater degree of diversification of crops with livestock activities in medium and large category of farmers, compared to marginal and small farmers.

7.1.6.2 Income and Employment of Human Labour in different Farming Systems

Amongst the various forms of diversification in marginal farmer, the total income varied from as low as Rs. 16418.35 in FS
01 farming system to as high as Rs. 18776.31 in FS 03 farming system. In small category of farmers, total income amongst various forms of diversification ranged between as low as Rs.22900.21 in FS 01 farming system to as high as Rs. 25454.81 in FS 03 farming system. Similarly it was also observed in medium category of farmers that the highest income was found in FS 03 farming system at Rs. 53893.52, while the lowest return was found in FS 04 farming system at Rs. 50486.31. Large category of farmers practiced four different forms of diversification, out of which, FS 03 farming system had highest income of Rs. 91785.22 and lowest income of RS. 88123.99 with FS 04 farming system. Result of the income from various forms of diversification in different categories of farmers reveal that larger farmers have the highest income followed by medium, small and marginal from all forms of diversification.

In marginal category of farmers, the total human labour employment was highest, 170.28 mandays in FS 03 farming system. Similarly, in small, medium and large categories of farmers, FS 03 farming system had highest labour employment of 266.44, 498.12
and 969.28 mandays respectively. In the contrary, the lowest human labour employment was respectively 159.38 and 252.74 mandays in FS 01 farming systems of the marginal and small categories of farmers. Results of the human labour employment in various forms of diversification revealed that employment was more in large farm compared to the other categories of farms. Field crops were the most labour intensive enterprise next to livestock practiced by each category of farmers.

Among the six farming systems, the FS 03: crop + dairy cow+ goatery + poultry is the best alternative farming system which fetched highest return of Rs. 47477.47 and maximum 476.03 mandays, while FS: 05 crop + dairy cow + goatery + duckery was observed as second best remunerative and employment generating system in the study area as a whole.

7.1.6.3 Production Function Analysis

The inputs like Fertilizer and family human labour were found to be the most important variables influencing the farm
income for pooled data. The other significant variables were pesticide and FYM. The pesticide variable was significant at 10 percent probability level of significance which means that an increase in the use of pesticides would enhance the gross return by protecting the crops losses. The regression coefficient of hired labour was negatively related to the gross income, but it was not statistically significant.

In case of marginal category of farmers, Fertilizer was again found to be significant variable at 5 per cent probability level of significance, indicating maximum contribution of fertilizer to the gross income. Again family human labour was also found to be significant indicating positive contribution of this resource to the gross income of marginal farmers. The input farm yard manure was also significant at 10 per cent probability level of significance, indicating the positive contribution on the gross return. Hired human labour was negatively related to the gross income, but it was not statistically significant.
In small category farmers, Fertilizer with a regression coefficient of 2.0031 had the maximum influence on farm income. The regression coefficients of FYM and pesticide were also found to be significant, indicating their positive contribution to the gross return and protection of crop losses respectively. The hired human labour was negatively related with the gross income, but it was statistically insignificant.

In the medium category of farmers also, the coefficient of family human labour had the maximum influence on the gross return. The regression coefficients of FYM, fertilizer and pesticide were also found to be statistically significant indicating the positive contribution of these variables towards the gross return and protection of crops losses.

In case of large category of farmers, Fertilizer had the maximum influence in the gross return with a regression coefficient of 1.1253. The other inputs like seed, pesticide and family human labour were statistically significance.
It was observed that the ratio of MVP to the factor costs for fertilizer was greater than unity in each category of farmers. The ratios of MVP to MFC for fertilizer in marginal, small, medium and large category of farmers were 19.9013, 16.5376, 12.2263 and 8.6903 respectively. This indicated that there is a scope of increasing the gross return by using more land, keeping other variables at their respective geometric mean levels of use. Similarly, the ratio of MVP to MFC of the variables like seed, FYM, pesticide were higher than unity, hence there is a scope of increasing the gross return by increasing the used of these variables.

In case of family human labour, the ratio of MVP to its MFC was less than one in all categories of farmers. These results reveal that the farmers were operating outside the levels in all categories. The ratios were less than unity, which also testifies to the overuse of these resources and was indicative of disguised unemployment on these farms. Family human resource is surplus, because of limited farm employment opportunities and therefore, the farmers seem to use it to maximize the returns instead of optimization. The ratio of
MVP to MFC for hired human labour was found to be positive but less than unity, indicating the uneconomic use of this input in medium and large farmers. Interestingly, the ratio of MVP of this input to factor price was noted to be negative in case of marginal and small categories of farmers, which pointed out inefficient and excess use of this input. This shows that increase in the levels of hired labour in marginal and small categories of farmers would decrease the gross return, keeping other variables at their respective geometric mean levels of use.

7.1.6.4 Effect of Optimization of Existing Plans on Cropping Pattern, Net Return and Human Labour Employment

Optimum plans ($P_1$ to $P_4$) showed a marked change in gross cropped area and cropping intensity, net return and human labour employment over the existing plan ($P_0$) in different category of farmers. In marginal category of farmers, gross cropped area increased by 13.14 per cent over the existing plan. Cropping intensity was increased from 175.64 to 198.71 per cent. Like the
marginal farmers, in small farmers also, gross cropped area increased by 20.32 per cent over the existing plan. It was also observed that cropping intensity increased by 34.58 per cent, over the existing plan.

In the categories of medium and large farmers, the same trend was noticeable. The gross cropped areas increased by 12.96 and 18.13 per cent respectively. Again the cropping intensity increased by 20.90 and 27.25 per cent respectively in the categories of medium and large farmers over their existing plans.

A specific trend of human labour employment was noted in all the categories of farmers. Human labour employment in marginal, small, medium and large farmers recorded an increase of 31.04, 32.19, 25.53 and 12.00 per cent respectively over existing plans. Increase in employment might be on account of increase in gross cropped area and cropping intensity over existing plan. Increase of area under area under labour intensive crops further increased the employment potentiality. Moreover, increase in the
level of livestock activity also recorded a notable increase in human labour employment.

Optimization of existing plan with minimum and maximum area requirements, minimum and maximum livestock/birds requirement, and with human labour hiring and family human labour transfer activities as well as transferring surplus capital activity have showed an increase in net return which was 46.63 per cent in marginal category of farmers over the existing plan. The increase in net return was recorded as 47.60 per cent in small category of farmers, 43.55 per cent for the medium category of farmers and 32.96 per cent for large category of farmers. Net return in all categories of farmers recorded an increase due to inclusion of more area under remunerative crops in the optimal plan. Moreover, increase in the livestock in the levels of livestock enterprise in the optimal plan affects positively in increasing the net returns of the farmers.

The sixth chapter titled, ‘CONSTRAINTS AND POLICY IMPLICATION’ have tried to identify the major constraints on the
way of further diversification and suggested policy measures. Lack of proper marketing and cold storage facilities, absence of price support measures, high cost and non-availability of certified seeds in time, lack of access of irrigation facilities, lack of access of institutional credit facilities are some of the major problems of agricultural diversification. The analysis of constraints reveal that these constraints are temporary in nature and can be overcome through extension and training support for motivation of the farmers for increasing cropping intensities and the necessity of raising income and employment through cultivation of remunerative crops and allied enterprises. Support of government and development agencies are needed for the motivation of the farmers, providing the required credit and marketing support and availability of improved inputs.

In the seventh chapter titled 'SUMMARY AND CONCLUSION', summary of all the contents of the previous chapters and conclusion of the study were included. The major findings of the study are outlined on the following:
i) The study revealed that the major farming system of the Central Brahmaputra Valley Zone of Assam was paddy-based and the farmers in general followed traditional farm practices.

ii) Mixed farming was prevalent among all the categories of sample farmers i.e., a combination of crops and livestock in addition to homestead plantation crops.

iii) On an average the cropping intensity of the sample farmers of the study area was 158.27 per cent. The sali and summer paddy is the major crop followed by the field crops like vegetables, pulses, potato, mustard and jute.

iv) Farmers were maintaining low levels of livestock enterprise, indicating lower degree of diversification. Lack of diversification was not because of interest but simply because of tradition.
v) In the existing plan, the major part of the total income and employment was occupied by field crops followed by livestock and plantation crops.

vi) FS 02 crop + dairy cow farming system was found to be most important among the sample farmers that were practiced by 26.22 per cent of the sample farmers.

vii) FS 03 crop + dairy cow + goatery + poultry farming system was found to be the best alternative system which fetched maximum net return as well as high labour intensive farming system in all the categories.

viii) The utilization of land was maximum during kharif season. It was minimum during rabi and summer seasons primarily on account of irrigation constraint.

ix) The study also revealed that plantation crops are grown by sample farmers in their homestead area, characterized by high density of perennial plants, low inputs and low yields in comparison to field crops and livestock/birds.
x) On an average, fertilizer is the most significant variable contributing positively towards the gross return, followed by family human labour, pesticide and farm yard manure. The contribution of seed to gross return is not statistically significant except large category farmers. The contribution of hired labour to gross return is negative but found to be statistically insignificant in pooled data. This showed a negative relation to gross return, indicating decrease in gross return with the increase of this variable.

xi) The ratio of MVP to MFC revealed that there exists vast potential for increasing the gross return by increasing the levels of variables like fertilizer, pesticide, farm yard manure and seed.

xii) The ratio of MVP to MFC of hired human labour was less than one in medium and large category, indicating uneconomic use of this variable. The ratio was found to be negative in case of marginal and small category
indicating decrease in gross return by using more of this input.

xiii) The ratio of MVP to MFC of family labour being less than zero indicates that the farmers were operating outside the optimum level leading to disguised employment.

xiv) Comparison of existing plan with optimum plan showed increase in cropping intensity, net return and employment substantially in all categories in the later. Hence it can be concluded that diversification can be the best strategy for increasing farm’s net return and employment generation.

xv) Rabi vegetables, kharif pulses and potato with sali & summer paddy HYVs were the most remunerative crop activities in the optimum plans for all size groups of farmers.

xvi) Among livestock/birds activities dairy cow, goatery and poultry got major emphasis in the optimal plans for all size groups of farmers.
The study also revealed that the way to diversification is not free from constraints. Lack of proper marketing constraints, lack of institutional credit, lack of cold storage facilities and lack of proper irrigation facilities are some of the major constraints in the study area.

7.2 Conclusion

Over-all it can be said that six major components of farming systems as field crop, dairy cow, goatery, poultry, duckery and pigeon were popular in adoption to the selected sample farmers. Field crops and dairy cow were of common practices in adoption of all the selected respondents. The system-wise analysis revealed that crops + dairy cow + goatery + poultry farming system is considered as the best alternative system which fetched highest net return of Rs.47477.47 and maximum employment of 476.03 human days, while crops + dairy cow + goatery +duckery farming system observed as second best remunerative and labour intensive system among all the six prevailing farming systems evaluated in the study.
area. So, it was suggested that farmers may give crop + dairy cow + goatery + poultry farming system the first priority to achieve more income as well as employment.

Further, development of diversified farming system is considered as the appropriate strategy for overall development of rural economy. Diversification of farms through crop production, allied enterprises can increase the farm’s net income and employment level. For the rural economy in general, and marginal and small farmers in particular, agricultural diversification can be considered as the required strategy for better utilization of resources, increase in total production, employment and income and ensuring food security and better nutrition of the farm families.

The present study was confined only to Central Brahmaputra Valley Zone of Assam. Similar studies can be conducted in other zones of the state for getting the true picture of the rural situation for policy formulation.