Chapter -V
Results, Implications and Conclusion

5.1 Results

In the foregoing previous chapters, a detail study on the rural marketing of agricultural produce in Manipur with special reference to Bishnupur and Thoubal districts have been covered. The present chapter makes an attempt to provide summary of the results of study which is based on both primary and secondary data. The results are classified into two ways, one from the cultivators/producers side and the other is from the buyers/consumers section from both sample districts.

5.1.1 Results of Cultivators/Producers

The following are the brief outcomes of the present study which is related to the cultivators/producers section of the study population.

1. In the multivariate analysis applying the regression model, the response variable is taken to be the annual sold agriculture products measured in terms of bags. The level in the sold products is assumed to be functionally related with nineteen factors – district (1=Thoubal, 0=Bishnupur), number of family members of the farmers, number of working members involved in the agricultural works, age of the respondents, type of weight and measure (1=standard, 0=others), land holding (0=landless, 1=small size of land, 2=medium size of land, 3=large size of land), educational standard (1=upto high school, 2= upto higher secondary, 3=upto college, 4=upto university level), training attended (1=attended, 0=not attended), mode of transportation facility (1=good, 0=bad), means of transportation of products (1=trucks/jeeps, 0=bullock-carts and go-carts), amount of urea (in kg) applied, amount of di-ammonium phosphate (in
kg) applied, mode of channel selection (1=no middlemen, 0=others/middlemen – village merchants/traders, commission agents and itinerate dealers), harvesting season (1=winter – October to December, 0=summer – June to August), distance from agricultural market (in Km), number of male literate in the household, number of female literate in the household, number of male employee in the household, and number of female employee in the household. Only six out of nineteen factors have been confirmed to have their significant contribution on the variation in the agriculture products sold by the farmers. After adjusting the joint effects of the combination of eighteen other variables, the six variables say land holding (P<0.001), educational standard (P<0.01), mode of transportation facility (P<0.05), amount of di-ammonium phosphate applied (P<0.01), mode of channel selection (P<0.001) and number of male literate in the farmer’s families (P<0.05) have been observed to have their significant impact on the amount of agriculture products sold per year. In the case of land holding, to each increment of one level (Levels: landless, small, medium, large) about 6-7 bags of agriculture product can be increased (P<0.01) in the sold amount of the farmers.

2. When the joint effects of other eighteen factors are controlled, the sold products is highly significant (P<0.01) with respect to educational level of the farmers. An unique finding has been observed that is the farmers having good transport facility can not sell more amounts of their products. Instead, the sold products has been reduced by 7.5 bags (P<0.05) per farmer having good transportation facility rather than those of farmers having bad transportation facility. In the similar manner, the sold amount of products is also significantly reduced by nearly 10 bags per farmer through the no middlemen type of channel rather than other types/middlemen such as village merchants/traders, commission agents and itinerate dealers of marketing channel. The application of di-ammonium phosphate can also improve significantly (P<0.01) in the
sold amount of products. The number of male literates in the farmers’ family also affects the sold products and it is found to be significant at 5% probability level of significance (P<0.05). The stepwise method reveals that only five predictor variables have significant contribution on sold amount of agriculture products in the two districts. They are land holding (P<0.001), mode of channel selection (P<0.01), amount of di-ammonium phosphate applied (P<0.01), mode of transportation (P<0.01), educational standard (P<0.05). It says that the regression model can be fitted with five important predictors. The last fitted is found to be

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\text{Sold agriculture products} = 7.94 + 6.31(\text{land holding}) + 3.68(\text{education}) - 6.86(\text{transportation facility}) + 0.69(\text{di-ammonium phosphate}) - 8.59(\text{channel selection})
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The fitted model is highly significant at 0.1% probability level of significance and the five selected explanatory variables explain 33% (R^2=0.33) of the total variation in the amount of sold agriculture products of the considered farmers. In the last fitted model, the educational attainment of the farmers can significantly improve the amount of agriculture products sold in a year. About four bags of products can be increased in the sold amount to each improvement of one level in education when controlling the joint effects of four variables – land holding, channel selection, di-ammonium phosphate and transportation facility. As such, the hypothesis that “The low production of the agricultural harvest is due to the ignorance and illiteracy of the farmers” is accepted at 5% probability level of significance. Mode of channel selection is highly influencing factor of the marketing of agriculture products. In one sense, no middlemen channel reduces the sold amount of products and other groups/middlemen – village merchants/traders, commission agents and itinerate dealers can improve the sold amount of products on the other. Thus the hypothesis “The strong operation of big involvement of the middlemen traders reduces the profit margin of the
cultivators/sellers” is accepted at 1% probability level of significance (P<0.01) when controlling the four factors – land holding, application of di-ammonium phosphate, transportation facility and educational attainment.

3. The annual rice production (in 000’ MT) is considered to be the response variable. The explanatory variables are irrigated area (‘000 Ha), high yielding variety area (‘000 Ha), local seed area (‘000 Ha), fertilizer used (‘000 tonnes), and pesticide used (in MT) in the two districts (Thoubal =1 and Bishnupur=0) during the 12 years (2001 to 2012). In other words, the rice production of the two districts is assumed to be the function of irrigated area, high yielding variety area, local seed area, quantity of fertilizer used and quantity of pesticide used during the twelve years. The analysis reveals that annual increase in the rice production of the two districts is 3.45 thousand MT during the twelve years while keeping constant the effects of other independent variables. This annual increment in the rice production is statistically significant (P<0.05). But district wise variation in the production is observed to be statistically insignificant (P>0.05) despite a visible increase say 0.8 thousand MT in Thoubal than Bishnupur district per year. Only two factors namely the irrigated land area (P<0.01) and high yielding varieties (P<0.01) are found to be highly significant on the rice production in the study population of two districts. While adjusted the joint effects of six other variables, the rice production can be increased about 8000 MT when the irrigated land area is increased by one thousand hectare in the two districts. In the similar fashion, while adjusted the joint effects of other six factors – irrigated area, local seed area, fertilizer used, pesticide used during one year, the rice production can be increased by at least 4000 MT as the high yielding variety area increased one thousand hectare in the two districts. In this analysis, the production is decreased by 1.27 thousand MT as the area of local seeds increases 1000 hectare considering the
effects of other variables to be controlled. However, this low productivity due to larger area of local seeds is statistically insignificant (P>0.05). Apart from the statistical significance, greater amount of fertilizer used has negative effects of rice production. Besides, as the quantum of pesticide used increased by one MT in a year, the rice production may visibly be increased by about two thousand MT in the same year in the two districts under study.

In regression analysis based on the secondary data, the fitted regression model on the annual rice agriculture product (in ‘000 MT) of the two districts is found as the following model.

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\text{Rice products (in '000MT)} = -31.48 + 3.45(\text{Year}) + 0.83(\text{district}) + 7.78(\text{irrigated land area in '000 Ha}) + 4.08(\text{High yielding variety area in '000 Ha}) - 1.27(\text{Local seed area in '000 Ha}) - 1.55(\text{fertilizer used in '000 tonnes}) + 1.86(\text{Pesticide used in MT})
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Here, the seven explanatory variables can explain 83% in the total variation in the rice production of the two districts \((R^2=0.83)\). The fitted model is found to be highly significant as indicated its diagnostics, \(F= 11.25\) (P<0.01). Thus, the hypothesis that “the low production of rice is due to lack of modern methods of technologies” is accepted.

4. Conventionally, the caste and profession are linked. Population was divided into different castes and each caste was carrying on a profession. But the study makes a different disclosure. There is no relationship between caste and profession. The finding in this regard is, out of 200 cultivators in both sample districts, 78.5 percent are Meitei. It is followed by 9 percent cultivators are Brahmin. Again, 6 percent and 3 percent of the cultivators are Muslims and Christians respectively. The pattern of distribution of
caste over the two districts is found to be insignificantly different. Agriculture works have been done irrespective of caste system in the study population.

5. Education is one of the important factors, which impregnates the knowledge of the sample cultivators which in turn accelerates growth and development in farming. The study observed that the maximum number of the cultivators in both districts have education upto high school level. Traditionally Manipur farmers are illiterates. But in the sample districts all the sample members are educated upto a certain level. They are all literates with a certain level of education. 46 percent of the sample cultivators are educated upto high school level. Again, the minimum number of education standard upto university level is only 2 percent. The educational background in both districts is quite similar. With higher education the cultivators would have gained more bargaining power. They could assimilate and understand the market intelligence better. In the sample districts though all sample members are literates; their educational background is not adequate. So, there is no significant difference in the distribution of educational standard between the two districts.

6. The small family norm as propagated by the government has not been able to get adopted by rural mass because of extensive labour force demanded for meeting the needs of farming. The size of the family reflects on the economic status of the farmers. The joint family system which was in existence in the rural areas is disintegrated into nuclear families. Though, joint family system has its own advantages but now-a-days most of the families prefer to live independently. However, in the sample district, the joint family system exists even today. When the joint family breaks, the property is divided among the male members. As a consequence of this break-down the agricultural crops plantation were sub-divided and fragmented. The study found that about 45 percent of the cultivators have a family with 4-5 members and small numbers
of them 7.5 percent have over 10 and above. The last group belongs to the joint family. Most of the sample cultivators who have a family size of 4-5 members cultivate small sized holdings and they depend exclusively on agricultural cultivation. Further, the study reveals that these cultivators have more numbers of non-working dependents. Any adverse variation in agricultural prices would upset the economic condition of the cultivators. There is highly significant difference in the distribution of family members between the two districts.

7. Majority of the cultivators that is, 34.5 percent lie in the age group of 40-50 years in both districts in similar pattern and they play a dominant role in agricultural production activities. This shows that middle aged cultivators, generally involve in field work. The cultivators of this group effectively engage themselves in farm work for generating income so that they can supplement family income. This section of cultivators solely depends upon land only for their living and land is the source of their income. Therefore, is no significant difference is observed in the age-wise distribution between the two districts.

8. The size of the farm income reflects on the economic status of the cultivators. In the sample districts, for agricultural cultivation, farm income is the only source of income. The study indicates that 45.5 percent cultivators have farm income upto Rs.1000 to Rs.5,000. This indicates that the families of cultivators were not financially very sound. Nearly, 40 percent cultivators have income in the range of Rs.5,000 to Rs.10,000 and 10.5 percent cultivators have income above Rs.10,000. There is no significant difference in the distribution of income in both districts. The study also analyzed the movable and immovable properties possessed by the cultivators. About 58 percent cultivators have property worth in the range of Rs.80,000 to Rs.1,20,000. Similarly, 31 percent have property worth above Rs.1,20,000. Though majority of the
cultivators have property in the range of Rs.80,000 to Rs.1,20,000 and above indicating better economic status, they do not generate any extra income from these properties. These properties like house, land, cattle, jewelleries etc., which are inherited and ancestral are used as security while raising loans. The economic status of sample cultivators between the two districts is not similar pattern. The value of chi-square is found to be highly significant difference.

9. The study found that 53.5 percent cultivators borrowed finance from the village money lenders in Bishnupur and Thoubal districts. These are the most important non-institutional sources of credit facilities for cultivators. They charge very high interest rates and are exploitation of cultivators. They act as indigenous bankers as their scale of operation is very high and they are capable of lending huge amounts of money. According to the All India Credit Survey, money lenders were the most convenient and easiest source of credit. The money lender did not distinguish between production and consumption credit. His credit was available when the farmer needed it. So, cultivators depended upon money lender for their cash requirement. They take loan from the village moneylenders for purchasing farm inputs and maintenance of family requirement. As against this, 24 percent cultivators are provided credit facilities of finance by the friends and relatives. It accounts a little portion of the rural credit. However, 19 percent of the cultivators can meet the expenditure of their family. They do not depend on different sources of financing. Only farm income can meet their cash requirement. These sections of cultivators are indicating better economic position. The overall distribution of sources of finance over the two districts is highly significant difference.

10. It is evidence from the survey that out of 200 sample cultivators, 81 percent cultivators have harvest their crop from October to December. About 19 percent sample
cultivators harvest their crop during the season ranging from June to August. The distribution of harvesting season over the two districts of Bishnupur and Thoubal is similar. The null hypothesis is accepted at 1% level of significance.

11. The study found that there are many changes that have been taken place on the rural scene. Nevertheless, the old system of weights is still in operation in spite of the introduction of metric weights by the government. In the sample districts 64.5 percent cultivators use standard weights and measures, 35 percent use local dry measures and only 0.5 percent cultivators use others measures. The need for using standard weights throughout the country is a must. Lack of use of standard weights would continue to keep agricultural marketing into an undesirable state of affairs. There was manipulation in weighting prior to the establishment of regulated markets. They have introduced correct weights and measures in the markets and also ensured that weighting is done by licensed weighmen with standard weights and platform scales. These assure correct weighing to the farmer and thus eliminate manipulation in weights. To widen the market for agricultural produce and to avoid manipulations of prices to the disadvantages of the seller and for easy comprehension of price quotations in various markets, standard weights act 1939 and the metric system of measures act 1958 are enacted and their application made compulsory throughout the country. There is significant difference in the weighing and measurement between the two districts.

12. The farmers in the sample districts grow agricultural produce for market disposal. The produce can be disposed of either during post-harvest period or subsequently. A majority of the farmers in the sample districts sell a large part of their produce in villages which results in low returns for their produce. This depends upon financial capability of the cultivators. The study reveals that 50 percent cultivators dispose of their produce immediately after harvest. Again, 30.5 percent cultivators sell
their produce when there is demand. And 12 percent cultivators sell their produce at a later date when prices are favourable to them. Most of the cultivators who belong to this category are large cultivators. They have better financial capabilities. However, it is observed that small cultivators dominate the group which sells the produce immediately after harvest. The sample cultivators in this group have opined that they had to sell the produce immediately after harvest at the low prices prevailing at that time in order to clear loans they had borrowed from indigenous money-lenders at prohibited rates of interest. A few members have also expressed that they do not have facilities for processing, transporting and storing of agricultural products. Due to the substantial supplies of agricultural products by the cultivators, markets are glutted in the post-harvest season. Traders often take advantages of this situation. The patterns of distribution of disposal time in Bishnupur and Thoubal district is quite similar.

13. While disposing the produce, it is not just the time of the disposal alone is important but also the place where it is disposed of – at the central market, village merchants, local market place and others. The survey indicates 53 percent of sample cultivators dispose of their produce at the established local market place. This is followed by 20.5 percent cultivators’ dispose of their produce at the doorsteps of villages’ merchants. Again, 19 percent cultivators dispose of their produce in the central market. The pattern of distribution of disposal centre over the two districts is found to be highly significant difference.

14. The study reveals that there is a long chain of intermediaries or middlemen through whom the various agricultural products pass from producers to ultimate consumers. Marketing channels for agricultural products vary from product to product, depending on the quantity to be moved, the form of consumer demand and the degree of regional specialization in production. In the sample districts several channels are
available for the disposal of their produce. The cultivators in the sample districts have routed their produce through more than one channel. There is predominance of the commission agents, villages traders and itinerate dealers from the primary stage of marketing to the secondary stage. There is a long distance between the farmers and final consumers. Consequently, although, the final consumers have to pay high price for the produce but only a small portion for it goes to the pocket of the farmers, the greater portion is going to the pockets of the middlemen. The role of middlemen is also seen even in the case of marketing of some perishable commodities like vegetables and fruits in the sample districts. The absences of storages, transportation, immediate cash requirement etc., are the main causes which compel the farmers to sell their produce to intermediaries unremuneratively and at a much reduced prices. About 47 percent cultivators have sold their produce to the village merchants/traders and 46.5 percent to the commission agents. Again 6.5 percent cultivators have sold their produce to the itinerate dealers. From the study it is found that village merchants/traders and commission agents are the predominant channels. The analysis reveals that the distribution of channel selection over the two districts is found to be insignificantly different.

15. Transportation, or the movement of products between places, is one of the most important marketing functions at every stage, that is, right from the threshing floor to the point of consumption. Transportation helps reduce the gap between the producer and the consumer and creates place utility for agricultural products. Transportation is an indispensable marketing function. Its importance has increased with urbanization. Transportation is a sine qua non for the development of trade in any commodity or in any area. Especially in the case of agriculture, where farmer-producers are located in remote places while consumers are concentrated in urban and semi urban
areas, transportation plays a vital role in completing this supply chain. In the sample
districts transportation of agricultural commodities is mainly done by trucks and jeeps,
go-carts and bullocks-carts depending upon the quality and stage of marketing. The
sample cultivators in Bishnupur and Thoubal districts, it is found that 78 percent of
sample cultivators hire trucks and jeeps to transport their produce. Nearly 17 percent
use bullock-carts and 5 percent use go-carts. Hence, cost of transportation is very high
in the sample districts. For this reason, some farmers do not like to sell their produce in
the market. They prefer to sell it to the nearest village traders. For local transport go-
carts and bullocks-carts are more commonly used in interior rural areas. The main
reason for such a trend could be the remote village centres, lack of proper roads and
others infrastructure, cost factors which deters farmers from adopting other techniques.
Since majority depends upon the hire of trucks and jeeps, they are called upon to pay a
price dictated by the transport operators. Lack of proper transport pricing policy has left
the cultivators at the mercy of private operators. The mode of transportation used by the
cultivators in the sample districts is highly significant difference.

16. The storage facilities available with the farmers are deplorably low. The
indigenous methods of storage in the sample districts do not adequately protect the
produce properly. The facilities for storage of agricultural produce are therefore,
inadequate and not scientific. Traditionally, the produces are kept by the cultivators in
kaccha storeroom, pits, earthen containers, bamboo containers etc. where it is unsafe. A
substantial portion of the produce is lost because of dampness, rats, ants etc. Moreover,
the quality of the produce also deteriorates. The holding capacity of agricultural
produce by the cultivators is reduced to a great extent due to unsound financial
condition, inadequate storage facilities and the possibility of being damaged. In such a
situation, farmers are very keen on disposing it of at the earliest possible time. For this
reason, they do not get fair prices for their produce. It is observed from the survey data that 34 percent of cultivators in both districts store their produce in their own godowns. These are naturally large cultivators and have sound financial status. Again, 25 percent of the agricultural products are stored in the godown of others (village traders, rural retailers etc.). They directly purchase the produce from the cultivators and they do not provide adequate storage facilities. They transport and sell it to the nearby market and village itself. Similarly, 41 percent of the agricultural produce are stored in the godown of commission agents. This category of people buy huge quantity of products during the peaks season at low prices and sell in the off-season when prices are high. They make profit from short run as well as long run price fluctuation. It is observed that there is significant difference in the distribution of storage facilities between Bishnupur and Thoubal districts.

17. Majority of the farmers of the sample districts are small and marginal farmers. They hold fragmented field in different places. In such situations of the cultivable fields full mechanism is not effective. Moreover, there is no usual application of the co-operative farming and joining farming practices. On the other hand, cultivators are still using old methods of operations in cultivations. Application of modern methods of cultivation in all stages of works and in all fields are not suited at present in this sample districts because of lack of proper knowledge, lack of credit sources, inadequacy of the fields and distribution of water resources, transport bottleneck, etc.

18. Majority of the cultivators in both sample districts have not received training on agriculture which is provided by the government. Trainings and development for rural class is an uphill task which is an essential step to develop in any developing state. The education and training to farmers is far from adequate. Increasing
productivity per man per acre, through use of HYV seeds, fertilizers and pesticides require call for qualitative and quantitative improvement. This has to be done by counseling, training and persuading the farming community on many facts of agricultural production and marketing.

5.1.2 Results of Buyers/Consumers

The results which are related to the buyers/consumers section of the study population which is based on primary data are also mention below:

1. The economic condition prevailing in the sample buyers are having decisive impact on the seller pricing policy. A rural consumer is bound to compare products on price basis. Thus the seller is sure to face price competition rather than non price competition in the rural market. The buyer preferred the prices are to be lowest again the competition in rural markets stems from not only the alternative products but the substitutes. The consumers are more likely to switch over to cheaper substitute products than continuing the same products. 33.5 percent of the buyers are satisfied with the price of agricultural products because of the cheaper price. Again, 31.5 percent are satisfied with the price of agricultural products due to good quality of products available. The rural buyers strongly crave for the good quality of products. Like urban consumers, the rural consumers are in the dictum of quality products at reasonable price. And 26 percent of buyers are not satisfied with the price of agricultural products which they bought. So there is significant difference in the distribution of satisfaction in price of agricultural products between the two districts.

2. Price is the amount for which a product, a service or an idea is exchanged or efforts for sale regardless of its worth or value to the potential purchaser. In the rural market both the element of that is, the utility factors and value factors are equally
important due to the limited disposed incomes with rural consumers. Every rural consumer has his budget. He looks for some adjustment or refinement in spending so that he gets maximum satisfaction within the financial limit he is affording. It is evident that 64 percent of buyers’ response to the same price behavior about the agricultural goods. The maximum numbers of buyers over the two districts have the same price behavior compared to other districts. So, there is no significant difference in distribution of price of agricultural products between the two districts when compared to others districts.

3. The study reveals that 57.5 percent are found in the charges of commission in the price of agricultural products. Again, 26 percent are included in handling charges in the prices of agricultural products. And 16.5 percent are transportation charges included in the price of agricultural commodities. This shows that maximum are the charges of commission agents included in the price of agricultural products. Commission charges play a dominant role in marketing activities. Most of the profits are captured in the pocket of commission agents. The charges included in the price of agricultural products distribution in Bishnupur and Thoubal districts are highly significantly different.

4. It is observed that 43 percent buyers of agricultural products are purchased by mother. Again, 32.5 percent buyers of agricultural products are purchased by the involvement of others group such as sister, daughter, son etc. And 15.5 percent buyers of agricultural products are purchased by the involvement of housewives. Members of the buyer family can exercise a strong influence on the buyer behavior. The majority of purchasing agricultural products is involved by mother in both districts. So, there is highly significant difference in the distribution of involvement of family members in buying the agricultural products in the two districts of Bishnupur and Thoubal.
5. Major proportion of the buyers say 40 percent are of the middle income group followed by 37.5 percent of low income and the rest, 22.5 percent are of high income. It may be observed that 44.5 percent of the buyers are of graduate and above which is followed by that of 37 percent are of low educational level that is, upto high school and that of 18.5 percent are 10+2 standard. Level of education certainly influences the buying behavior of consumers in terms of size, price, quality relationships, weighment and awareness of various consumer protection measures. The distribution of the buyers of both districts according to the levels of education and income is found to be highly significant as is evident by \( \chi^2 \)- value (15.78; P< 0.01).

6. While classifying the income level and place of market, 61 percent of the buyers are associated with the others market say nearby general stores, groceries, door delivery and only 39 percent of them are associated with the main market. The lowest proportion of 22.5 percent of buyers falls in high income level. This distribution of the buyers according to their income levels and place of market is also found to be highly significant (\( \chi^2 =21.53, P<0.01 \)) in both districts. It is observed that only 3.5 percent of the buyers falling in the high income group have purchased their agricultural products from the main market and 19 percent of high income levels are associated with others markets. The higher proportion of the buyers say 26 percent of the middle income and 19 percent of high income level are familiar with other types of market. However, the considerable proportions of 21.5 percent buyers having low income are found to be associated with main market in the study population.

7. The study reveals that maximum proportion of the buyers that is 40 percent lie in the middle income group which is followed by 37.5 percent of low income group and remaining, 22.5 percent falls in high income group. It is observed that 59 percent of the buyers are facing difficulties and problems in the related area such as good quality
of products not available, lack of transportation and others etc. Most of the rural consumers are facing inconvenience with regard to the distance of market place and want of proper transport facility. Again, another group of buyers that is 41 percent are not facing difficulties and problems. The distribution of the buyers according to the difficulties and problems they face at the time of purchasing agricultural products and income level of both districts is found to be insignificantly different as witnessed by $\chi^2$-value (4.11; P> 0.05).

8. Most of the buyers, 80.5 percent are having good transportation facilities, out of which 30.5 percent buyers are of middle income, 30 percent are low income and only 20 percent buyers are having high income. The minimum proportion of buyers, say only 2.5 percent of high income are facing poor transportation facilities. Maximum numbers of buyers are have good transportation facilities in both districts. Road transportation is the most dominant mode of transport in the study area. The buyers of the three levels of family income of both districts are found to be distributed insignificantly with transportation facilities (P>0.05) under study.

9. Maximum proportion of buyers, 40 percent lie in the middle income group which is followed by 37.5 percent of low income group and the rest, 22.5 percent fall in the high income group. It may be observed that 40 percent of the buyers purchase their requirement once in three days, followed by 30.5 percent of the buyers who purchase agricultural products once in two days. And 12.5 percent of the buyers purchase their requirement on daily basis. Most of the rural consumers are agricultural labourers and involve in allied activities and this group belong to low income group. The duration of purchasing of different agricultural commodities by the rural consumers are highly determined by the different income level. The pattern of distribution of the buyers of both districts, according to the duration of purchase agricultural products and family
income is found to be significantly different as witnessed by $\chi^2$-value, is 14.27 where $P<0.05$. The study clearly shows that income level affects the buying behavior of rural consumers.

10. The maximum numbers of buyers, 96 percent avail good quality of agricultural products. Out of which 38.5 percent buyers falls in the middle income, 35.5 percent are low income and only 22 percent buyers are having high income. The negligible proportion of buyers that is 0.5 percent with high income is find quality of agricultural products poor. And the 35.5 percent of the lowest income group consider the quality of agricultural products fine even though they are poor but maintain the good quality of products in which they bought for their requirements. It is found that the buyers of three level of family income are distributed insignificantly different with the quality of agricultural products available in both districts, as witnessed by $\chi^2$-value is 0.73 where $P>0.05$. It is conclude that the family income does not affect the buying behavior of the rural consumer under the study.

11. Maximum proportion of the buyers, 40 percent fall in the middle income group which is followed by 37.5 percent lie in the low income and the remaining 22.5 percent are lie in high income. It may be observed that 87 percent of the buyers are purchase agricultural products on payment of cash basis. The highest proportion of buyers, 29.5 percent with low income are purchase agricultural products on payment of cash basis. Though, cash purchases are dominant of almost all the different level of income of the buyers. Again, 13 percent of the buyers purchase agricultural products on others basis such as credit, barter etc. It is observed that there is highly significant difference in the pattern of distribution of income and the mode of purchase ($P<0.01$) in the two districts. In this case, income level affects the buying behaviors of rural consumers in both districts.
12. Fifty-five percent of the buyers consider other factors such as easy availability, use by neighbours, experience of family members, while purchasing agricultural products. This shows that others factors are considered to be dominantly influencing of the buying behavior in the rural areas according to the view point of the sample buyers in both districts. This is followed by 30 percent of the buyers are given importance to the price of agricultural products, 15 percent of the buyers are considered about the quality while purchasing agricultural products. 12.5 percent of the high income group attached much importance to others factors which is followed by price 7 percent and quality 3 percent while purchasing agricultural products. Among the middle income group of buyers others factors and price played an important role. Others factors and price are dominated in low income group. There is no significant difference in the pattern of distribution on the impact of income to the influencing factors in the two districts, as witnessed by $\chi^2$- value is 4.55; P>0.05. The study indicates that income level does not affect the buying behavior of the rural consumers in the sample districts under the study.

5.2 Implications

In the light of the observations made in the study certain implications have been offered to make rural marketing system of agricultural produce more effective. These are presented in the following pages.

1. Introduction of New Technology into Small Farms

An important line of advance lies in injecting intensive cultivation on small farms based on new technology. These farms constitute a substantial bulk of the total agricultural land. Besides, the number of such farms is much larger than that of large farms. The application of new technology in these farms will contribute significantly to
the solution of shortage of agricultural products. It will also improve the economic status of the majority of farmers. The introduction of new technology in these farms requires under-taking of the various measures mostly by the government.

2. Diversification

Diversification of mono cropping and double cropping to multiple cropping with vegetables and milch animals under improved levels of technology will results in increased farm income. Agricultural diversification may lead to the enhanced prospects of farmers in the rural areas by providing necessary technological, development of irrigation and infrastructure. Institutional and administrative changes might be brought about through effective government policies. Manipur as well as sample districts have a good scope in the production of many horticulture produce. Therefore, processing of horticulture products has a tremendous potential in the state. Diversification of agriculture has revolutionary steps to improve rural economy by generating employment, thereby alleviate poverty and conserve precious soil and water resources.

3. Trainings Facilities

Manipur farmers are to some extent not in favour of radical change of agricultural techniques. Most of the cultivators still use the same very old, indigenous and unscientific methods. Absence of adequate training on agriculture and low level of literacy on a large scale are liable for unscientific methods of cultivation. The State Department of Agriculture adopts Training and visit (T&V) system of extension methodology. In addition, the Department disseminates farm information to the farmer in the form of awareness training programme, demonstration, supply of important inputs like seeds, plant protection chemicals and equipment and fertilizers etc. So, as there is need to coordinate among the government departments to enhance and dispense agriculture services to the farmers. Trainings and development for rural class is an
uphill task which is essential to develop any developing state. The education and training to farmers is far from adequate in the state. Increasing productivity per man per acre, use of HYV seeds, fertilizers and organic manures, and pesticides requires qualitative and quantitative improvement. This has to be done by counseling, training and persuading the farming community on many facts of agricultural production and marketing. There are many financial assistance provided by government for the operation of these activities, which farmers must use to grow more and grow better quality produce. Agricultural extension so far has been confined to issues of intensification and diversification of production. Increasing production by itself is no solution unless the increased produce finds a suitable market through agricultural extension work. The state is presently facing new challenges of globalization and liberalization also.

4. Introduction of Crop Insurance Scheme

Manipur agriculture is at the mercy of nature. Even today, farmers depend upon rains which are undependable. This affects the yield and eventually the farmers. Steps should be taken to provide the irrigation facilities. Crop Insurance Schemes should be introduced. This would definitely enthuse and motivate the farmers.

5. Improvement in Standardization and Grading

Agricultural products are heterogeneous. They are not uniform in size, shape, quality and other physical characteristics. Because of this, different varieties of the same product fetch different prices. Hence goods are classified into different types so as to price them accordingly. This classification is done on the basis of certain predefined grades and standards.
Standardization is the determination of basic limits or grades. Grading means sorting produce into different lots according to the quality specifications. Grading and standardization enable the farmers to get higher prices for their produce, minimizes storage losses, ensures better scope for exports etc. Hence awareness about grading and standardization and its advantages has to be created.

6. Provide Pre-harvest and Post-harvest Support to Farmers

The farmers, particularly small farmers, need support like improved seeds, fertilizers, finance, harvesting and threshing equipment, storing facilities, transportation facilities, etc. If these things are improved the farmers will come out from the clutches of unscrupulous village money-lenders and will bring their produce to the established markets.

7. Financial Assistance

Financial assistance is required for meeting operating expenditures relating to agricultural farming, to maintain livelihood and for improving holding capacity of produce to make the best use of marketing opportunities. There are several financial institutions such as Regional Rural Banks (RRBs), Commercial banks, National Bank for Agriculture and Rural Development (NABARD), Co-operative credit etc., which provide credit facilities to the small and marginal farmers, agricultural labourers, artisans etc. to ensures growth and development of agricultures, trade, commerce and other productive activities in rural areas. Among many financial institutions, the co-operative credit society is the best organization to meet financial requirement of the farmers because such an institution is of particular relevance for the farmers with small means. Finance must be linked with marketing arrangements. During the course of providing finance, it should be taken into account that the farmers are selling their produce through co-operative societies. This ensures not only refund of credit but also
fair prices for produce. So, the farmers must be prevented from selling their surplus produce out of compulsion to clear their debts to the village money lenders or to those people who provide money to carry on their agricultural operations.

8. **Transportation Facilities**

Adequate connecting roads usable in all weather must be constructed in the rural areas so that farmers even from interior rural areas can have access to the road facilities to carry their surplus produce to the market. There is a need to develop the transportation system so as to improve the marketing system and make the movement of goods from one place to another easier. Further adequate transportation facilities must be made at a cheaper rate to the farmers in the rural areas, wastage and damage during transits is reduced and consequently increasing productivity. This will enable them to fetch better price and to come out of the clutches of village moneylenders and middlemen. So, good transportation means better linkage and easy flow of goods and thus better trade and higher returns to producers.

9. **Establish Infrastructure for Storing the Produce**

The farmers in the sample districts are compelled to resort to distress-sales as they have no facility to store the produce after harvest. Storing of agricultural produce has to be done on a scientific basis as the products are sensitive to disease. There is a strong need for the establishments of adequate godowns in certain important centres in the vicinity of agricultural products are grown. After harvesting the products, farmers could store their produce in these godowns. Temporary financial accommodation could be extended by the commercial banks on the hypothecation of godown receipts. So, the agricultural products including horticultural products can be available throughout the year. This will reduce the problems of wastage and damage during peak season. It
would definitely help the farmer to get better price for his produce, because he can wait till the market becomes favourable to him.

10. **Discourage the Activities of Village Merchants and Commission Agents**

   The study revealed that the farmers, particularly the small farmers, are compelled to sell their produce to village merchants and commission agents. These intermediaries exploit the farmers. Farmers avail of financial accommodation from these agencies. Because of ineffective financing by the Primary Agricultural Co-operative Societies, the farmers depend on these agencies. Necessary legislation should be brought and the farmers should be made to compulsorily sell their produce in established markets. The working of Primary Agricultural Co-operatives should be toned-up and timely finance should be made available to the farmers.

11. **Market Inspection, Research and Training**

   Proper arrangements for market inspection, research and training will help to solve the problems of agricultural marketing in many ways. With the help of this research, efficient marketing system can be developed. Occasional inspections will help in identifying the nature of the problems and their root cause and also finding solutions for them. This may induce market functionaries in discharging their duties properly so that farmers’ interests would remain protected. There is also need to investigate marketing methods, changing demands, costs, price, etc. On the basis of this, research and analysis of these problems will help in formulating correct policies, rules and provisions. At the same time marketing personnel need to be properly trained to run various institutions efficiently.
12. IT Application in Agricultural Marketing

Agricultural produce marketing requires connectivity between the markets, the growers/exporters/traders, industry and consumers through a wide network of national and international linkages so as to provide day to day information with regard to the commodity arrivals and prices; to provide links for on-line international market information; to provide export related documentation; to inform about the latest research in agriculture marketing, packing and storage; and to provide connectivity with the world trade centers (WTC), National Horticulture Board (NHB), National Institute of Agricultural Marketing (NIAM), Agriculture and Processed Export Development Authority (APEDA), State Agricultural Marketing Board (SAMBs), university and others such organizations.

IT is being regarded as the fifth factor of production along with land, labour, capital, management. It has integrated the world by the use of internet. Information technology is basically concerned with e-commerce that is, on-line information facilitating transactions, future planning for purchases and selling of horticultural and inputs; and various other aspects which World Wide Web provides. E-commerce has revolutionized trade in developed economies but is in the infancy stage in India.

13. Application of e-Choupal

The e-Choupal has been specifically designed to tackle the challenges posed by the unique features of India agriculture, characterized by fragmented farms, weak infrastructure and the involvement of numerous intermediaries, who block critical market information from passing to the farmers and use that information for getting a big margin for themselves. The intermediaries capitalized on the economies of information and economies of physical things, which are tied together in a bundle. Due to this, the farmer does not get the proper price of its product and they continue to live
below poverty line. But e-Choupal sets things in order as it smooth the flow of information to the farmers by disinter mediating intermediaries from the chain of information flow and at the same time leverages the physical transmission capabilities of them as they deliver critical value at every link for a very low cost in a weak infrastructure environment.

5.3 Conclusion

The agriculture situation in Manipur has undergone a rapid change in the last two decades. Investment in agricultural sector, both in public and private sectors has risen. Agricultural production, in general has achieved reasonable growth rate. But the growth rate has not only to be maintained, but accelerated and fluctuations in agricultural production are to be minimized. The efforts are already under way to evolve location-specific technologies, transfer them to farmers’ fields and assure input supply to farmers in right time, place and quality. The rate at which new technology and yield increasing inputs are adopted by farmers is affected by the prices of input and output. Simultaneously, consumers also expect the availability of goods at reasonable prices. For achieving these conflicting objectives, marketing system for agricultural commodities and inputs have to play a crucial role.

The growth of population and concomitant reduction in the size of the agricultural land holdings in the valley made traditional method of cultivation non-profitable or in other words subsistent. Agriculture in the states is confined to 10.48% of the total geographical area. The percentage of agricultural land in valley districts is 47% and that in the hill districts is 53%. The state is marginally deficit in cereals and highly deficit in the production of oilseeds and pulses. Therefore, the per hectare production of all foodgrains and other commercial crops have to be increased to meet the requirements as well as the economic development by providing all the necessary
inputs, technology by feedback process, price support etc. in time. During the twelve five year plan 2012-2017 and Annual plan 2012-13 thrusts will be given to get the self-security in foodgrains, oilseeds, sugarcane and potato. To achieve it emphasis should be given in those areas such as multiple cropping, introduction of improved method of cultivation, quality seed production, assured irrigation, farm mechanization etc. These factors have become indispensible to change the agricultural economics in the state. The strategy for agricultural development during twelfth five year plan will be taken up to increase the production of foodgrains 21.30%, oilseeds 9.97%, sugarcane 8.62% and potato 13.33% by the end twelve five year plan over the anticipated achievement of 2011-12. Because of the transportation and communication advantages 50 to 60 percent of the agricultural population adopted improved method of cultivation by using hybrid seeds, chemical manures, pesticides etc. and thereby caused a scientific renovation in agriculture (Singh, 2010). Taking into account of these progressive farmers, agricultural prospects are now brighter among the non-tribal farmers in the state. There are large variations in the use of fertilizers across the irrigated and dry regions and within region across different crop varieties in Bishnupur and Thoubal districts of the state. These varieties are due to excess use of fertilizers than the recommended dose in some areas on some crops and deficient use in some other regions and other crops. There is also an imbalanced use of fertilizers in the sample districts. The excess and imbalanced use of fertilizer in the state increase the cost of production and depress the yield through the depletion of secondary and micro nutrients and a constraint for agricultural development in the state. Balance use of fertilizers, organic manures and bio-fertilizers with other inputs like irrigation, quality seeds, etc., are the requirement for increasing production. Nevertheless, in order to commercialize or to make agriculture a profit giving sector, a long way has to go to remove the deficiencies. For this regular supply of improved seeds, fertilizers, and other infrastructural and technical
aids must effectively be made under twelfth five year plan proposals. Above all, the greatest task is to motivate or to orient the minds of rural farmers towards modern farming. To do this decentralized training programme and education on modern farming would probably be made effective. A strict control over the supply agencies of seeds and fertilizers etc. will be necessary for the modernization of agriculture. So, the Agriculture Department of the state has a well-organized publication wing (Information Unit) to provide extension supports to extension workers and farmers with the latest development in agriculture technology through different audio-visual aids, extension literature journal, film/video shows and organization of exhibition and other programmes for the development of agriculture in the state. During the Annual plan 2009-10, National Agriculture Insurance Scheme (NAIS) has been introduced and implemented for the first time in the state in the two valley districts viz., Bishnupur and Imphal west. An area of 10875.60 ha was covered benefiting 109.30 numbers of farmers under this scheme. The Rashtriya Krishi Vikas Yojana (RKVY), the flagship scheme of the Ministry of Agriculture, Government of India has been started implementation in the state with a target to achieve 4% growth in the agriculture sector in the country during the year 2009-10.

Agriculture plays a vital role as the backbone of the economic development of the state, because the economy of the state has been based on its subsistence agriculture. The agrarian situation in the Bishnupur and Thoubal districts of Manipur from the given data, it is seen that low production of agricultural products is due to the lack of modern method of cultivation. This region is characterized as low yielding and slow growth areas needs introduction of improved technologies as could tap potential availability of resources to give maximum yield. Increasing the yield through technological innovation is the only viable option as the source of agricultural growth
in the future. The prospects of farmers in sustainable agriculture oriented towards market economy will bring under the second Green Revolution and farm diversity raising the agricultural competitiveness of farmers with small holdings is a major challenges. Methods of conferring the power of scale to small farm families both production and post-harvest phases of farming are urgent necessity. Pro-poor rural and agricultural development should be promoted by increasing investments in rural infrastructure and agricultural research and development. In agricultural sector, food-processing industries played significant supportive roles in the diversification and commercialization of agriculture. Promotion of sales of agricultural products demands the marketable surplus, which means higher yield levels and another equally important requirement is guaranteed grade of high-quality of the farm products. As such diversification of agriculture into horticulture, floriculture, forestry, sericulture, aquaculture, dairy and livestock husbandry with improving value addition in the agricultural production through networking processing units by capturing the global market. This is a part quality of farm products and guaranteed grade need to be maintained to meet the expectations of the customers in the global market.

The introduction of High Yielding Varieties and new technology not only lead to intensification of farming but also result in the growth of diversified farming, leading to all over benefits to the whole farming community Shigani and Pandya, (1998). The levels of crop diversification vary from region to region because of varied agro-climatic conditions and resource endowments which need to be examined in Manipur. Sharma and Kumar (2008) suggested that diversification offers an effective mechanism for enhancing farm income, minimizing risks, preventing degradation of natural resources, employment generation of the rural masses and ensuring food and nutritional security. It has the potential for commercialization of agriculture, remunerative crop production
and replacement of subsistence farming into economically viable farming. It provides not only income but also the production of agro-food products to meet the domestic requirement and exports. With its wide range of natural conditions and varied soils and topography, the states favours the production of sizeable quantity of rice, wheat, maize, pulses, oilseeds such as mustards, groundnuts, soyabean, sunflowers, ginger, turmeric and fruits like pineapple, banana, lemon, oranges, papaya, pulm and vegetables like cauliflower, cabbage, tomato, pea, potato, squash, carrot, pumpkins etc. The suitable agro-climatic condition of the state also favours providing areas for producing raw materials of agro-base industries. For increasing income and improving the standard of living of the people, diversification in agriculture, low yielding and low value crops has replaced by high yielding and high value crops. The agri-business needs to be developed by diversifying the agricultural produce marketing system to yield value-added remunerations to the farmers and the end-users of the produce. The development of agricultural markets in developing countries like India, the inter-linkage of various factors in commercial sector is felt essential to make more efficient the rural markets where agriculture posses a role of supplier of raw materials to the agro-industries. The generation of employment progress vis-à-vis the advancement in agriculture and industry.

The technological development in agriculture and allied fields has made rapid strides in increasing the production and productivity in many agri-horticultural crops. However, the benefits of these developments have not reached fully to the farmers in Manipur and the sample districts in particular due to lack of proper marketing facilities in the state. Under the present economic liberalization process, the agricultural marketing system has to be strengthened and restructured to facilitate the improvement of farm income. Farmers should be made aware and capable of taking advantages
arising out from the ongoing marketing innovations and also from various schemes of
the government and other institutions. The emerging agricultural marketing situations
like entry of multinational companies in retailed business in agri-horti products are
likely to be influenced by the share of primary producers either positively or negatively
depending on how the farmers can respond to the changing demand situation of various
agri-horti products. It is essential to increase awareness level of the recent changing
pattern on agricultural marketing situations among the farmers and empower them to
take better decisions on production and marketing of agri-horti commodities. The state
government should be more proactive to encourage the private players in agri-horti
commodity marketing. Market innovations like contract farming can be encouraged to
facilitate the marketing of high value crops and organic products.

The marketing contents in most of the development plans are at present very
low. The primary objective of the economic policy should be to assist the marketing
apparatus to function as aggressively and efficiently as possible. The marketing
economy in the development of the developing countries significantly contributes in the
overall process of development in the country. Smith (1973), points out that the
efficient and organized marketing system provides consumers with improved products
at lowest costs; this contributes positively to the development process. Marketing and
production are interdependent. Producers must be convinced that a remunerative
market exists for their farm products, before they commercialize the production.
Attractive market prospects combine a good price at assured market outlets. Market
structure includes all strategic variable, which control or influence the behavior of
many agencies involved in marketing. The efficiency marketing involves investments
and changes in several other aspects viz., institutions, organization, practice and
amenities. There must be adequate assembling centres to ensure the collection of
produce to promote the supply behavior. Clear marketing channels must be created between producers and consumers based on appropriate credit, transport, market information, grading and storage facilities. There should be perennial training and innovative research to adopt the modern marketing management techniques.

The primary assembly markets are the pillars of the agricultural produce marketing in the country. The regulation of these markets were through of, due to the existing malpractice in various trade channels such as price dissemination, low remuneration to the farmers etc. The establishment of regulated market sharply decreased the sale of farm produce to itinerate or village traders, and caused more producers to bring their produce to the regulated market centres, with more centres, with more competition among buyers. Agricultural producers in Manipur, though forming a major portion of the population, remained economically weak and unorganized for centuries, which made them amenable to exploitation by the numerically smaller but economically strong and well organized middlemen. One of the most important government activities that has gone a long way in protecting the producer’s interest has been the enactment of Agricultural produce Markets Act by a number of state Governments. These Acts provide for the establishments of regulated markets, which are administered by a market committee on which are represented both the traders and producers interests. In these regulated markets malpractices have been largely eradicated and methods of sale of the commodities brought in by the producers have been standardized enabling them to obtain a competitive price of their produce.

In the interest of public welfare, the government in the marketing system, directly or indirectly, the extent of intervention depends on the objectives of government and to the extent of defects and malpractices prevailing in the system. The state government has taken several steps to improve the conditions of agricultural
marketing. The development of an efficient marketing system is important in ensuring that scarce and essential commodities reach different classes of consumers. It is an important means for raising the incomes level of the farmers on the one hand and increasing consumers satisfaction at reasonable price on the other. Marketing is not only an economic link between the producers and the consumers; it maintains a balance between demand and supply.

Economic development of a region is measured by the strength and efficiency of the linkages established in various sectors to operate the production and business cycle. These are backward and forward linkages constituting credit institutions, technology extension services, marketing, transport and communication network for mobility of output in various trade channels. An integration of these linkages forms the economic system of production in any sector in rural economy predominantly agriculture. Marketing of farm produce, therefore, constitutes the nerves centers of rural economy. Considering the emerging issues and challenges, government support is necessary for the development of marketing of agricultural produce. The government may adjust suitable budget allocations to rural infrastructure plans, and proper supervision for effective plan implementation. The core areas like transport, communication, roads, credit institutions, crop insurance for better utilization of land and water at appropriate level. The rural people and markets will definitely develop rural income and reduce poverty, on the whole country economy will boost at an expected level. To manage an extension management institution might provide extension services to rural people in crop information, price information, insurance and credit information by using various media. The governments should provide suitable infrastructure development and thrash out current problems in rural markets and adopt problem solving techniques.