Summary and Conclusions
The problem of income distribution in relation to agricultural development is certainly multi-dimensional in character. Although economists have studied the income generating effect of new agricultural technology, very few attempts have been made to investigate the effect of agricultural development through the introduction of new seed-fertiliser technology on farm income distribution. The present investigation went into the entire gamut of issues related to inequalities in rural areas.

Obviously, the issues addressed in the present study are as follows:
1. The significance of cropping pattern and diversification achieved by the various farming categories in three blocks.
2. The analysis of inputs used by the farmers and its impact on production, productivity, yield rate and the levels of income of different categories of the farmers in three blocks.
3. The study systematically explored fairly extensively, the relationship among household income, consumption
expenditure, current farm expenditure and capital expenditure and savings against the backdrop of introduction of new farm technology in the three blocks. The study also outlined the importance of non-farm activities in shaping the incomes of farmers in different blocks.

4. The study presents the distribution of income and the extent of inequality among various categories of farmers dwelling in developed, moderately developed and less developed blocks with the help of Gini ratios and Lorenz curves. We have also considered determinants for inequality in the distribution of income in the three blocks using Cobb-Douglas technique.

5. The problem of income distribution is also looked into from the angle of distribution of landholdings and the consumption expenditure of farmers in the three blocks.

Shimoga district provided a good scope for making the study of the problem of income distribution with its remarkable development in agricultural sector in Karnataka State. For many years, a substantial progress has been achieved in the implementation of new farm technology and in the expansion of irrigation base. The economy of this district is even today rural-agrarian but not urban-industrial and the future development of the district still depends on agricultural development. Therefore, if the inequality in agricultural income widens, the interests of
entire agricultural sector will be at stake. The more we attend to this problem, the greater will be the scope for easing the agrarian unrest and of course, the social tension in the country side. Infact it is possible to identify the villages in the district with varying degree of agricultural development.

This study aimed at examining the impact of agricultural development on income distribution among different categories of farmers in three Blocks which have attained various levels of development in Shimoga district. The problem of inequality in the distribution of income has been examined from four angles: i) the extent of inequality in the distribution of income; ii) the relationship between the level of agricultural development and income inequality; iii) the determinants of inequality in the distribution of income and iv) the inequality in the distribution of landholdings and consumption expenditure. For the purpose of this study, agriculturally developed, moderately developed and less developed villages in Shimoga district have been selected. Proportional sampling technique is used for the selection of sample households. With the help of pre-tested interview schedule, the details of farm households are collected pertaining to the agricultural year 1994-95. The data are analysed by using various statistical tools such as Lorenz curves, Gini ratio, Pareto coefficient, coefficient
of variation and Elteto-Frigyes method to meet the objectives of this study.

This study has indicated that the farm size in different blocks determined the diversification of cropping pattern and agricultural development with increased irrigation base also influenced farmers to shift to more remunerative crops in the district. The present investigation finds that marginal and small farmers of developed block responded more to new seed-fertiliser technology compared to those of moderately developed and less developed blocks. This was also reflected in the higher yield rate obtained by farmers of developed block and all the categories irrespective of their land base were successful in raising income levels against farmers of the other two blocks. However, the new farm technique posed a challenge to the farmers with the escalating cost of production. Another interesting aspect revealed by this micro study is that non-farm activities failed to gather the momentum in all the three blocks except a few like dairying and petty business.

The gross farm family incomes were found to be higher in developed block compared to other two blocks in all categories. The size distribution of income was found to be relatively better among farmers who own the higher extent of land. In other words, inequality in the distribution of
income was higher in marginal farmers category in all the three blocks; lower inequality was observed in large farmers category. Though marginal farmers are trying to follow medium and large farmers in all the three blocks, they failed miserably to increase the income levels because of lower size of land. The analysis of field data enabled to deduce inverted U-relationship between inequality in the distribution of income and agricultural development in the category of small farmers and medium farmers; inequality decreased as agricultural development proceeded in the category of marginal farmers, semi-medium farmers and large farmers. However, contrary to this, agricultural development increased the inequality in the distribution of income among the landless agricultural labourers. Thus, the pattern of income distribution was deteriorated with level of agricultural development among landless agricultural labourers. It clearly indicates that agricultural development, with the increased use of tractors, reduced employment opportunities to this category. The reduced employment opportunities increased inequality in the distribution of income. The above explanation proves the two hypotheses - direct and inverted U-relationship exist between agricultural development and inequality in the distribution of income.

Another important finding of the study is that,
inequality in the distribution of income increased with higher degree of development. To be more precise, inequality in the distribution of income was lower in less developed block; further development increased the inequality in the distribution of income. The new farm technology in Block-1 with increased irrigation base helped farmers in achieving higher levels of income; but this brought about a higher degree of inequality in the distribution of income. However, in Block-3, with the obsolete farm technology and very low irrigation facility, it was observed that inequality in the distribution of income was comparatively low. It is a very clear indication that agricultural development failed to reduce the income inequality in rural areas. The hypothesis that agriculturally more advanced areas have relatively poor distribution of income compared to underdeveloped areas is, therefore, proved.

The study revealed that the consumption expenditure was more equitably distributed in all the three blocks; also the same priorities can be observed in the consumption pattern of different categories of farmers dwelling in different levels of development. With this, a plausible argument can be advanced that the agricultural development failed to exert positive impact on consumption pattern and priorities of farmers in rural areas. Therefore, inequality in the distribution of consumption expenditure was lower in all the
three blocks. This study suggests that the higher current
farm expenditure and limited capital expenditure by medium
and large farmers are the main reasons for the same priority
and reduced inequality in the distribution of consumption
expenditure in the three blocks. Thus the hypothesis that
inequality in the distribution of consumption expenditure is
lower than the income inequality and land inequality is
proved.

The predominance of small holdings in developed block
increased inequality in the distribution of income. The
small sized holdings in all the three blocks prevented the
diversification of cropping pattern and thereby the level of
income of this category is at a low level. The further
sub-division and fragmentation of land with the attendant
disadvantages certainly paved the way for accentuating
inequality in rural economy.

The study revealed that the farmers response to new
technology was encouraging. However, the unscientific way of
application of fertilisers by farmers created the more
serious problem of cost escalation. In fact the development
of agricultural sector helped small and marginal farmers to
adopt new technology. But the prevalence of higher degree of
inequality in the distribution of income in developed block
shows that, without effective outside interference, the
reduction in inequality cannot be achieved.

The study has also revealed that in all the three blocks non-farm employment opportunities have not occupied the center-stage of rural economy which would reduce the income inequality significantly. Among the non-farm activities which helped marginal farmers to maintain the usual livelihood, agricultural wage employment played a pivotal role. It signifies the need for the development of necessary infrastructure that helps to widen the non-farm activities in rural areas.

The developed block characterised by higher degree of inequality in the distribution of landholdings and this is the major cause for the higher degree of inequality in the distribution of income in this block. Another factor revealed by this study is that inequality in the distribution of landholdings decreased with the improved agricultural development and further development increased inequality. In a search for the possible determinants of the level of income of the farmers, Cobb-Douglas model was used. It also helped to understand the relative contribution of different factors leading to the inequality. The following are the important determinants leading to inequality in the distribution of income. (1) Farm size (2) Divisible technology (3) Indivisible technology (4) Cropping
intensity. In other words, large farmers were able to adopt the new technology with a more vigour with better access to the institutions whereas marginal and small farmers with their size constraint failed to adopt new technology; and thus it aggravated the inequality.

In all the three blocks, the farm size contributed immensely to the determination of income levels and therefore, it can be considered one of the significant factors of income inequalities in rural economy. The divisible technology consisting of HYV seeds, chemical fertilisers, manures, pesticides etc., played a very important role in the determination of income in all the three blocks. The application of new technology in Block-1 and Block-2 resulted in the attainment of higher level of income by the farmers as against the income received by the farmers of Block-3. As discussed earlier this investigation is a clear evidence of greater inequality in the distribution of income among the farmers of Block-1 who showed higher interest in the application of seed-fertiliser technology. In contrast, other two blocks - Block-2 and Block-3 - with lesser degree of agricultural development indicated comparatively lesser inequality in the distribution of income. Among the identified determinants of inequality farm size, divisible and indivisible technology, wages paid out and hire for animals or implements deserve
greater emphasis.

In Block-3, the major problem faced by the farmers is the lack of irrigation facilities and it resulted in a very low income to all the categories of farmers. The lack of infrastructural facility is a major impediment in generating employment opportunities to marginal and small farmers. Therefore the above factors are turned out to be the most important contributors towards income inequalities. However, the family labour and mutual help among farmers of less developed block contributed heavily in reducing income inequality.

To sum up, the process of agricultural development has resulted in relatively greater disparity in respect of size distribution of income in developed areas compared to moderately and less developed areas. It was also found that the farm size was the major factor for this pattern of income distribution.

Policy Implications And Suggestions:

To achieve better distribution of income, emphasis would have to continue on a package of inputs, their availability and delivery system, specially for small and marginal farmers of the three Blocks. The expansion of irrigational potential and its optimum utilisation sustain better income
generation and distribution in Block-3. With scientific application of fertilisers, a spectacular gain can be achieved in overcoming the cost crisis faced by farmers of Block-1 and Block-2 and thereby income of the farmers can be increased. Provision for the adequate and timely extension services can increase the production and productivity. It is necessary to impart better scientific knowledge to the farmers so that profit maximum input package can be adopted by them and improve their income position. As far as possible, marginal and small farmers of all the three Blocks should be provided employment opportunities outside agricultural sector. Moreover, the inertia of farmers regarding the innovations in agricultural sector contributed to the persistence of widespread inequality in the distribution of income in the three blocks. The present impasse in the agricultural sector can be resolved with the innovative and industrious farmers. For this, farmers have to evince enthusiasm in agricultural research and thereby try to get the best out of new farm technology. In this regard, a participatory approach by farmers helps to a large extent.

In overall economic development, the agricultural sector will continue to play a pivotal role. Therefore public investment in this sector should be enhanced, so that better infrastructural facilities could be built and income
generating capacity can be improved. The allied sectors of agriculture have been neglected by farmers of all the three Blocks. It is the main reason for the low level of income in the rural areas. Appropriate policy incentives could be developed in order to generate more income through the development of animal husbandry, poultry and fisheries. It is necessary to encourage farmers to develop the personal godown facility. Through this, farmers are able to get better price for their agricultural products and invariably it improves the level of income and better distribution of income among the farmers.

In the study region, preponderant proportion of landholdings is small or marginal. Even with the best of productivity of traditional crops cultivated by small holders, the resultant incomes may not be sufficient to support a minimal standard of living. Agricultural production systems followed by this category should be diversified into other allied activities which brings higher returns and incomes, such as animal husbandry, horticulture, etc. If many small and marginal farmers of all the three Blocks are encouraged to start these agro-based industries, their incomes would expand and consequently, the inequality in the distribution of income will be negligible.
Even in the irrigated areas, there is some potentiality for increasing productivity through the more effective dissemination of improved technologies amongst the entire farming community.