

## CHAPTER VII

### CONCLUSION AND RECOMMENDATIONS

#### 7.1 Conclusion

Binh Dien is one of the communes located in the hilly and mountainous area of Thua Thien Hue province. Deforestation, degradation of the land, and poverty are the major problems in the region. The production system in the region is very diverse. Crop and animal production are the main economic activities of the commune. Agroforestry systems in Binh Dien use a combination of annual crops, fruit and forestry trees, animal raising, and off-farm activities. There is an interrelationship among different components of the system and all components are linked with the household sector which is central to the system. All components play an important role in maintaining the system and contributing to the income for the farmers in the region.

In the agroforestry systems of the region, both men and women participated in all production activities. However, there was gender-specific tasks in agroforestry activities. It was found that crop weeding and storage were usually activities of women and land preparation fell under the men's domain. Branch cutting in forestry production was mainly performed by female farmers whilst, digging and protection were carried out by males. Poultry and pig raising were responsibilities of Binh Dien women but cattle production was in the men's domain. In off-farm activities there was also gender division. Small business, gathering fuelwood, and cutting Imperata were performed by the women while logging and hunting were predominant activities of the men.

The analysis of labor use pattern indicated that there was a significant difference between men and women in their involvement in all forms of agroforestry systems. However, their role depended on the type of crops, trees, animals and kind of activities as well as on economic status. The male farmers in high and medium

income groups contributed significantly more than women in the respective groups to land preparation for all crops but in the poor income group, there was no significant difference between men and women in land preparation of some crops. It was also found that the men and women allocated the same amount of time in harvesting of all food crops in every household group (except mungbean). For weeding and storage of food crops, the analysis of the labor use pattern also indicated that the women, irrespective of economic status spent more time than men in the same household group. Almost all food crops were a major concern for women in different income groups since total labor days used for food crop production of female farmers was greater than that of men in the same income group. Fruit trees which were planted mainly for income generating purposes were also a concern of women in all economic groups. However, unlike in food crop and fruit tree production, the research results indicated that men contributed more time than women in the respective income groups to industrial crop production (but the difference was not-significant in the high and poor income groups). The comparison of the role of women of different economic status showed that the involvement of poor and medium income female farmers in cassava and sweet potato was significant greater when compared to high income women. It was also found that the higher income women allocated more time to industrial crops production than lower income female farmers. However, their involvement in fruit tree nursery and management was the same (except for banana production).

In planting and management of forestry trees, the research found that women of different economic status spent less time than men in the same group in all activities. The t-test result indicated that the high and medium income women allocated much more labor days to *Acacia* and *Eucalyptus* production than poor women.

In animal production, the labor use pattern by gender showed that the men of the high and medium income groups contributed a greater amount of time to all activities related to cattle raising. In different ways the women, irrespective of the

income groups, spent more labor hours than men in the same group in every activity of pig and chicken production. The comparison of the involvement in cattle raising among different income groups indicated that the rich women allocated 13.5 labor hours per month which was significantly greater than the 4.6 and 2.5 labor hours of the medium and poor income women respectively.

For off-farm activities, it was also found that there was no significant difference between high income female and male farmers in cutting Imperata but in medium and poor income groups there was. The women of all economic status did not allocate any labor day to hunting and logging. In contrast, small business was mainly a women's job, the men in all interviewed households did not join in this work.

The research on housework found that the women in all household groups spent much more time than men (from 10 to 15 fold). The men in every economic status rarely join in cooking and going to the market. For other housework, they participated but with only a very small amount of time involved. Binh Dien women worked an average of 13 hours and 19 minutes per day while the men worked only 9 hours and 42 minutes.

For decision making, when asked, Binh Dien farmers said that the decisions were often made by the head of the family who is usually a man. However, almost all decisions were discussed and agreed by other family members who were mainly wives. The formal survey indicated that the men had a stronger role in making decisions on types of crops and area, types of fertilizers, and with or without pesticide application whilst the women often made decisions on when to weed and how to store products. It was also found that decision making was influenced by economic status. The women of the the high income group participated more than poor women in making decision on the kind of seed to plant. In decisions related to animal production, Binh Dien women had better roles compared to men in all respective income groups. In contrast, decisions on planting and managing trees were mainly made by the men. The female farmers in higher income groups had stronger roles than

poor women in making decisions on the species of tree to plant and where and how much to sell while poor women participated more in making decisions on when to cut branches. For decisions about household activities, Binh Dien men had greater roles in making decisions about buying a house, attending meetings and training activities. The high income women joined more in making decisions on when to buy materials and how many children they wanted than medium and poor income women.

The formal survey also reflected that both Binh Dien men and women had access to resources. Nevertheless, in reality, gender discrimination was apparent in giving credit, land title and opportunity for training.

It was found that Binh Dien female farmers were major keepers of the family income but their personal expenditure was smaller than that of their spouses. The t-test showed that when income source in kind was included in the calculation, the women in different income groups contributed more than men in the same group to total family income (43-58% for women as against 30-36 % for men).

The participatory rural appraisal found that there were gender differences in indigenous knowledge of natural resource management and utilization. Binh Dien men knew more ways to conserve soil fertility than women. It was also found that both male and female farmers knew how to conserve water resources. However, the men had a stronger role in conserving water resources for production, whilst water conservation for domestic use was the women's domain. For utilization of wild plants, the separate women's and men's group interviews reflected that the female farmers gathered and used a greater number of wild plant species for food and fodder than men, but for medicinal purpose there was no difference.

## **7.2 Discussion**

The agroforestry system in the upland area of North Coastal Central of Vietnam is subsistence-oriented. The Binh Dien commune is an example of low

productivity agriculture surrounded by environmental degradation as a result of deforestation. Food insufficiency is also other problem of the commune where 81 percent of households do not have enough food all year. Improving productivity of the agroforestry system and adopting income generating programs can be major measures to solve food insufficient and environmental degradation problems. To increase productivity of the agroforestry system, attention should be given on all components e.g crop cultivation, tree planting, livestock management, suitable off-farm activities and human resource development. Participatory rural appraisal exercises reflected the strong relationship of these components, which is influenced by economic status and access to resources. Participatory rural appraisal emphasizes group discussions and diagram drawing by local people, and pays attention to the behavior of outsiders in interactions with villagers.

Gender differentiation at the Binh Dien commune, with respect to crop, livestock, and forestry production as well as off-farm activities was found to be very interactive and substantial in the agroforestry systems. Men's roles were stronger in industrial crops and forestry tree management whilst the roles of women were more visible in food crop cultivation practices, fuelwood/ fodder collection and income generating activities. These all indicated that both men and women's roles could be utilized to strengthen the agriculture and forestry development projects as well as income generating programs.

The upland agroforestry production of Binh Dien commune is an integration of crop, livestock, and tree subsystems with off-farm activities. Interventions in any component of the system will be unsuccessful if it can not be integrated with other subsystems by the local farmers. Agroforestry development projects and income generating programs would be strengthened if they incorporated local farmers' needs and concerns based on different economic status and also gender.

After finding the constraints, opportunities and potentials of existing agroforestry systems using this gender-based approach, recommendations can be

provided to policy makers and development workers for the improvement of planning and implementation of projects and programs, as well as integrating men's and women's concerns into agricultural, forestry and income-generating development activities.

Due to limitations of time and budget, this research could not highlight gender roles in community activities. Neither could the research estimate other aspects of local knowledge by gender. Besides this, the information in the formal survey was obtained from the interview of only one principal farmer in the household. Therefore, information collected sometimes may lack accuracy. Also because of the shortage of time and funds, the research could not be done with minority ethnic groups who live in the region, and other ecological zones of the North Coastal Central area in order to see overall picture of gender roles.

The gender differences in the areas of concern, access to resources, constraints, as well as indigenous knowledge which were found in this research do not imply that the women are better than men or vice versa. The purpose of these findings is to give some recommendations which may be helpful for rural and agroforestry sustainable development.

### **7.3 Recommendations**

Rural and agroforestry systems development can not address sustainability without human resource development (the household sector). Empowering all members of farm households to fulfill equality in development is one of the important factors that can contribute to the success of systematic improvement. To improve the agroforestry systems in the study area and other regions, which have the same social, economic and ecological conditions, the following recommendations may be useful:

1. Document and understand gender differences before setting up any development program and project in the region.

2. Gender issue should be included in training programs for current and future development workers and policy makers.

3. It is necessary to give both female and male farmer opportunities to join in development projects. However, because of their different roles in the household, different policy measures are required for men and women. For example specific projects for women in the area should be home gardening, pig and chicken rearing, agroforestry techniques, as well as wild plant conservation and use.

4. To increase the productivity of the system in the region, it is essential to increase the attendance of women in community meetings and extension training. The decision making power of women can be enhanced if their knowledge and understanding of farming increases. The argument against integrating female farmers into extension was that women would not be able to attend meetings since they take care of the household and their children. However, it was reasoned that as women spend much time in on-farm activities, they also are able to attend the meetings. Since the research was found that working times of women are higher than in the dry season, training activities should be organized in the rainy season.

5. Improving women's access to land requires a change in the land registration procedure in rural areas of Vietnam in general and in the region in particular. Instead of registration in the name of the male head of household only, certificates should bear the name of both husband and wife.

6. Lack of credit is one of the major constraints to increased productivity in rural area, in particular for women in this study area. Therefore, government and non-government organizations need to extend credit support to women (especially poor women) with low interest, and the provision of a repayment through installments

basis. Monitoring of loans to avoid problems of distribution for wrong purpose and object is also needed.

7. To reduce illiteracy and increase the education level of rural female pupils, the government needs to issue policies to support poor female pupils not only through fees for studying but also with books and stationery. The local authority and organizations can campaign for people to donate old books and stationery to support poor pupils. It is also necessary to establish a charitable fund to support poor pupils, especially females, to give them the opportunity to attend, at least primary school.

8. Government and non-government organizations as well as local authorities need support to improve infrastructure (especially drinking water resources and sanitary facilities) in order to make better the health of the community in general, and women, who often were responsible for fetching the household's water, in particular. To reduce the heavy workload of the women's housework and increase their productive roles, kindergartens should be constructed at village level with partial support of the government.

9. Family planning is needed to alleviate the reproductive role of women so that they can increase their participation in production and improve their welfare.

10. There should be campaigns in rural areas to reject the ideology that makes housework a women's duty.

11. It is necessary to integrate gender knowledge, needs and concerns in designing and implementing any rural and agroforestry development programs and projects.

12. Comparative research on gender roles between different ethnic groups and zones of the area, gender roles in community activities, as well as other aspects of indigenous knowledge by gender should be undertaken further.