

CHAPTER VI

DECISION MAKING, INDIGENOUS KNOWLEDGE AND ACCESS TO RESOURCES IN BINH DIEN

This chapter reveals the roles of Binh Dien men and women in decision making, utilization and management of natural resources as well as access to resources. The data about decision making and access to resources by gender were obtained from a formal survey by interviewing principal farmers. The separate women's and men's group interviews were undertaken to gather information on indigenous knowledge of utilization and management of natural resources.

6.1 Decision making in agroforestry tasks

The information about decision making among family members provides useful guide-lines for rural development project design and implementation (Mueller, R. D., 1985). The question of who makes decisions was addressed at the household level. Four areas of major decision making regarding agroforestry production which are crops, animals, trees, and household activities were studied in order to identify the allocation of responsibility between the family heads and their spouse. During data collection, there were problems because the process of decision making was very complex. Some decision making patterns can be shifted due to the husband's absence. Some answers indicated that a decision was made by the husband, but actually he might have consulted his spouse before he made a decision. However, the author tried interviewing intensively to get as accurate information as possible. This section reports percentage of respondents in which a decision was made by the husband alone, the wife alone, or both. Some answers were that the decision was made by all family members. However, this decision making pattern was small compared to others so it was not reported here.

6.1.1 Decision making in crop production activities

Decision making relating to crop production activities needs detailed explanation. This research found that both the husband and wife participated in decision making on crop production. However, their roles depended on the kind of production activities and economic status.

The role of gender in the household's decision making on crop production in different income household group is presented in Figure 6.1 and Table 6.1. When asked who made decisions on the type of crop and land area to cultivate, 40 and 46.7 percent of high income farmers interviewed said that this was made by males and both males and females respectively while only 13.3 percent of them reported that it was made by females. This proved that even in rich economic status, the women still have less control over land resources because they are limited in the power of decision making over cultivation land area for each crop. However, this decision in medium and poor income groups was mainly done by the men (53 and 57 percent of respondents respectively). The percentage of respondents who reported this decision was made by medium income women was only 6.7 which is equal to only 1/2 of that in the high income group. The higher percentage of poor women who made decisions on the kind of crop and land area compared to the medium income group, was a result of a higher rate of households with widows in which the women made all decisions.

As for the decision making on type of varieties to plant in high income group, the percent of respondents who reported that this decision was made by the men and women was nearly equal. The reason was that the Binh Dien female farmers often made decision on the type of varieties of crops which were grown by themselves such as mungbean, sweet potato, and cassava, while the men took decision on type of varieties of introduced crops such as rice and peanut. Nevertheless, in poor and medium income households, this was mainly decided by male farmers (the percent of respondents who reported that the decision was made by only male farmers was three

fold compared to that made by medium and poor income female farmers respectively).

Table 6.1 Decision making on crop production by gender and economic groups

Household group	High income			Medium income			Poor income		
	M	F	B	M	F	B	M	F	B
Type of crops and land area	40.0	13.3	46.7	53.3	6.7	40	56.7	16.7	26.7
Type of varieties to plant	26.7	20.0	53.3	40	13.3	46.7	50.0	16.7	33.3
When to plant seed	13.3	16.7	70	10	26.7	63.3	30.0	20.0	50.0
Type of fertilizer to apply	30.0	10.0	60.0	50.0	6.7	43.4	53.3	16.7	30.0
When to weed	10.0	40.0	50.0	6.7	46.7	46.7	20.0	36.7	43.3
Whether to apply pesticide	73.3	3.3	23.3	70.0	6.7	20.0	66.7	16.7	16.7
When to harvest	20.0	13.3	66.7	10.0	16.7	73.3	30.0	23.3	46.7
How to store products	3.3	66.7	30.0	0.0	70.0	30.0	3.3	80.0	16.7

Source: Survey, 1998.

Decisions on when to plant the seeds, and when to harvest were made mainly by both women and men in all household groups (around 60 percent of respondents). According to the farmers in the region, the women involved more in these activities of crop production so they accumulated more experience in the suitable time to plant seeds therefore they could participate in making this decision.

For decision making on type of fertilizer to apply, the percent of respondents who said this was made by high income men was three fold compared to high income women. However, this decision is also made mainly by both sexes (60 percent of respondents). In poor and medium income households, the percent of people who answered that decisions on crop production were taken only by men was rather high (about 50 percent which was nearly 1.7 times greater than that in high income group)

(Figure 6.1). Due to the lack of access to information and limitations to knowledge, the women of low economic status participated less than wealthier women in this decision making.

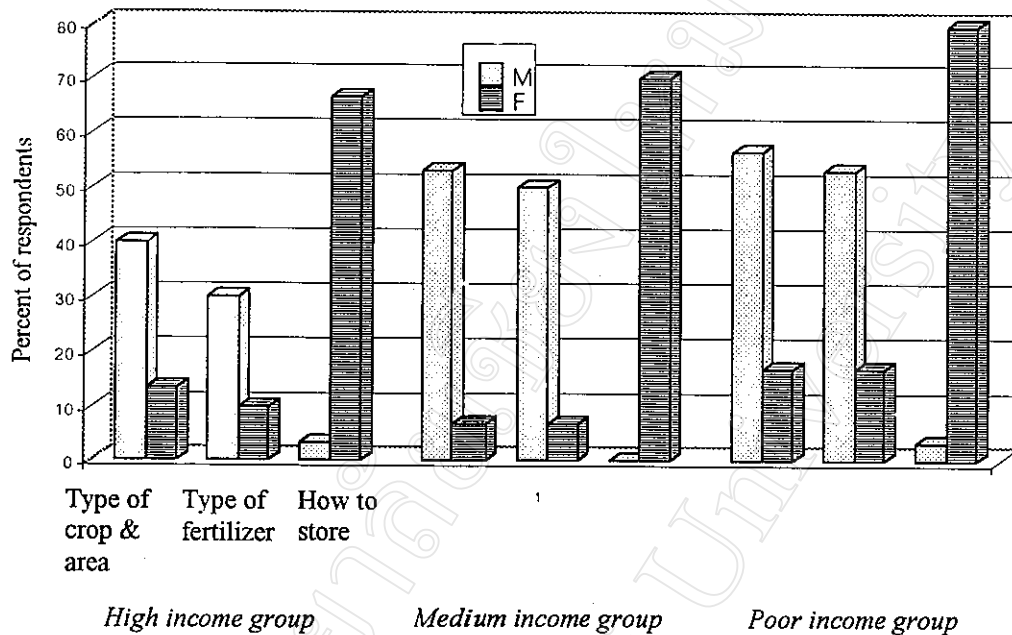


Figure 6.1 Selected decision making on crop production by gender and economic status

Source: Survey, 1998.

The rate of women in all income groups who participated in making decision on when to weed was high (about 40 percent of interviewed farmers said this decision was made by women in all household groups). This is because weeding activity was often performed by the women.

Du (1994) reported that in the Mekong river delta, 90.5 percent of respondents said that decision on spraying pesticides was made by men. This is the same in Binh Dien commune where male farmers of every economic status made decisions on whether to apply insecticide (more than 70 percent of respondents said this was decided by men in all household groups).

Interestingly, this research found that the decision on how to store products was the female farmers' domain (around 70 percent of respondents said this was decided by women in every household group) (Figure 6.1). According to the respondents, female farmers in the region were often responsible for storing products of all crops such as mungbean, peanut, cassava, and rice for family's consumption and sales all year as well as for providing seeds to next cropping season. The experience in storing products and selecting seeds of almost all crops have been mainly accumulated by female farmers through many generations. The male respondents said that if you wanted to know how to store products you should go to ask women. Female farmers knew the ways to prevent damages of insects to mungbean seeds, peanut nuts, rice, and processed cassava roots by their traditional experience and knowledge. Due to having more experience and knowledge in storing crops' products, female farmers in the region often make decisions on how to store products of crops.

6.1.2 Decision making about animal production

The study on decision making about animal production also helps us to see the control over the household's resources which can contribute to improving the household's status. The research indicated that rate of women who participated in making decisions for all animal production activities was higher than when compared to crop production, however their role also depended on economic status and type of activities.

Decision making about animal production activities by gender in different household groups is reported in Table 6.2. The result of this study showed that the decision making on all activities of animal production in the high income group was mainly made by both men and women (more than 50 percent of respondents in all activities). However, for decisions on type of animals, the percentage of high income farmers who answered that this was taken by males was higher than the percentage of respondents who said it was made by females.

Table 6.2 Decision making about animal production by gender and economic groups

Household group	High income			Medium income			Poor income		
	M	F	B	M	F	B	M	F	B
Type of animals to raise	23.3	13.3	63.3	13.3	30.0	56.7	10.0	46.7	43.3
Amount of animals to raise	16.7	26.7	56.7	10.0	30.0	60.0	16.7	46.7	36.7
Type of breed to raise	20.0	23.3	56.7	13.3	30.0	56.7	6.7	46.7	46.7
Where to breed animals	20.0	23.3	56.7	16.7	30.0	53.3	13.3	36.7	50.0
Where to sell animals	16.7	30.0	53.3	10.0	33.3	56.7	16.7	46.7	36.7
Where and how much to buy animals	26.7	23.3	50.0	20.0	20.0	60.0	13.3	50.0	36.7
Number of animals to consume	6.7	30.0	63.3	10.0	40.0	50.0	20.0	43.3	36.7
Number of animals to sell	20.0	30.0	50.0	16.7	26.7	56.7	10.0	50.0	56.7

Source: Survey, 1998.

In contrast to the remaining decisions, the percentage of high income respondents who reported that decisions were made by women was greater than the percent of respondents in that group who answered that they were decided by men.

With regard to decision making in where to sell animals, the percentage of respondents who said that decisions were made by female farmers was about 2-3 times compared to the percentage of people who responded that it was made by men (Figure 6.2). This is because female farmers are often responsible for feeding family members and going the market so they usually make these decisions.

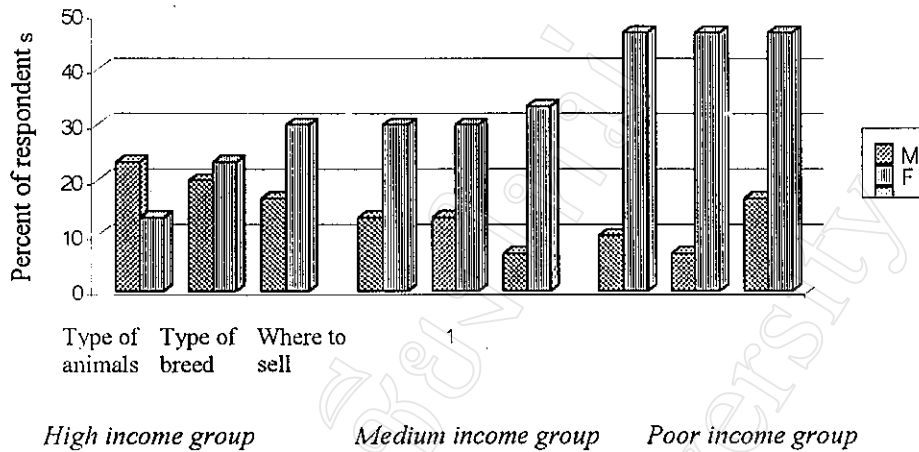


Figure 6.2. Selected decision making about animal production by gender and economic status

Source: Survey, 1998.

The survey result reflected that unlike in high and medium income groups, decisions on animal production activities was mainly made by women in poor income households. Nearly all poor income households do not have cattle, so decisions about animal production in the poor income group was mainly made by the women who often are responsible for pig and poultry raising.

6.1.3 Decision making in tree production

The survey found that decisions on tree production in Binh Dien were mainly made by male farmers. However, their role in decision making depends on the kinds of activity and economic status.

Table 6.3 shows that in the high income group, from 50 to 70 percent of respondents who said that decisions on where and land area to plant trees, species of trees to plant, where to buy seedlings and when to harvest were made by men. Only

around 10 percent of high income farmers interviewed answered that they were made by women.

Table 6.3 Decision making on tree production by gender and economic groups

Household group	High income			Medium income			Poor income		
	M	F	B	M	F	B	M	F	B
Kind of decision									
Where and land area to plant	56.7	6.7	33.3	63.3	6.7	26.7	73.3	10.0	10.0
Where to buy seedlings	70.0	3.3	23.3	76.7	6.7	13.3	73.3	10.0	10.0
Species of trees to plant	53.3	13.3	30.0	66.7	6.7	23.3	76.1	10.0	6.7
When to cut branches	23.3	16.7	46.7	33.3	26.7	30.0	36.7	20.0	3.3
When to harvest	56.7	3.3	26.7	60.0	3.3	10.0	40.0	6.7	3.3
Where and how much to sell	26.7	10.0	50.0	40.0	13.3	23.3	26.7	6.7	13.3

Source: Survey, 1998.

It was also found that these decisions were decided by male farmers of medium and poor income households. However, the women of all economic status participated much more in making decision on when to cut branches compared to other decisions (Figure 6.3). The reason is that the women often have to be responsible for collecting fuelwood to cook, therefore they participated more in making this decision. Due to concerns about house construction and big income resources, the men of all economic status often decide when to harvest trees. The survey reflected that the decisions on where and how much to sell the products of tree harvesting were made by both male and female farmers (50 percent of respondents) in the high income group. According to the farmers interviewed, the high income women have more chance than poor women to do business so they can know about market information, hence they can participate more in making decision on selling of products .

Comparing the same decisions in the high and medium income group, the percentage of poor income farmers interviewed who said the decisions were taken by

men was greater. This proves that lower economic status results in greater gender inequality in decision making. Because of their lack of access to information, education and training, poor women participated less than in decision making about tree management.

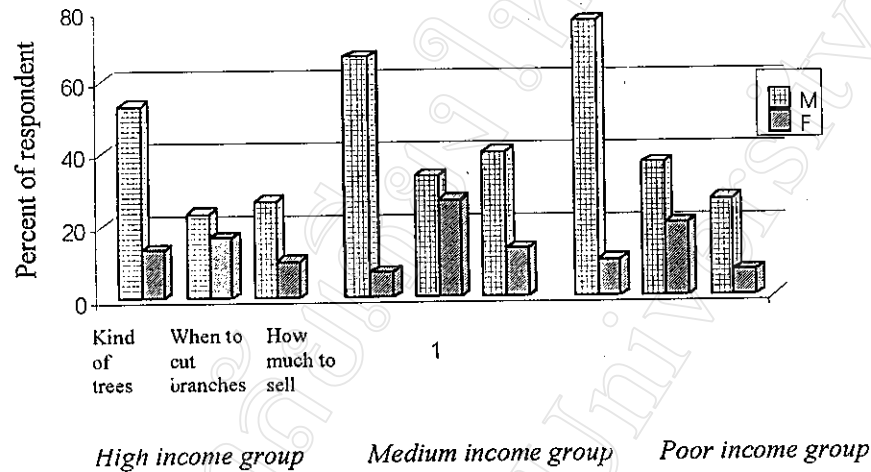


Figure 6.3. Selected decision making on tree production by gender and economic status

Source: Survey, 1998.

6.1.4 Decision making about household activities by gender

As we discussed in chapter IV, the household sector is a very important component of agroforestry systems. It relates to all other sectors of the system. So, researching on decision making in household activities will help us to understand the position of women and men in the household and to strengthen the power of all family members in household and community development. The survey reflected that both men and women participated in making decisions about household activities. However, their role was influenced by economic status and type of activities.

Table 6.4 shows decision making about household activities in different income groups. It was found that the decisions on when and where to buy the house in all household groups were mainly made by the men (around 60 and 70 percent of respondents in high and lower income groups respectively). The Vietnamese have a saying: “housework is a woman’s job, buying and selling the house is a man’s work”, so the percentage of households which reported that these decisions were made by females is very small (only about 10 percent in all household groups).

Table 6.4 Decision making about household activities by gender and economic groups

Household group / Kind of decision	High income			Medium income			Poor income		
	M	F	B	M	F	B	M	F	B
When to buy materials	20.0	26.7	53.3	30.0	20.0	50.0	43.3	20.0	36.7
When to buy house	56.7	10.0	33.3	70.0	6.7	23.3	76.7	13.3	6.7
Where to buy house	60.0	3.3	36.7	70.0	6.7	23.3	73.3	13.3	10.0
Number of children	13.3	3.3	83.3	33.3	6.7	60.0	53.3	13.3	30.0
Sending children to school	13.3	3.3	83.3	30.0	6.7	63.3	43.3	16.7	36.7
Children’s marriage	6.7	3.3	50.0	10.0	6.7	23.3	10.0	6.7	16.7
Attending meetings	50.0	10.0	40.0	63.3	6.7	30.0	76.7	6.7	6.7
Attending training activities	53.3	3.3	43.3	60.0	6.7	23.3	66.7	3.3	3.3

Source: Survey, 1998.

Binh and Lan (1996) reported that in Truc Dai, Trang Xa, and La Hien communes in the North of Vietnam, 59, 73.2 and 58.9 percent of people interviewed said that both men and women made decisions on buying major materials, number of children, and sending children to school respectively. In the same way, in Binh Dien commune, making these decisions in the high and medium income groups was also discussed and agreed mainly by both husbands and wives. However, in the poor

income group, all decisions in household activities were made mainly by the male farmers. This raises a concern that in poor income households, women's power in decision making is much diminished.

Decisions on attending meetings and training activities in all household groups were decided by men or both. Nevertheless, the percentage of poor households interviewed which reported that these decisions were made by men were much greater than in the high income group (Figure 6.4).

Although the percentage of respondents who said decisions on attending meetings and training activities were done by female farmers was not high, but the high economic status women joined more in making these decisions in comparison to poor women.

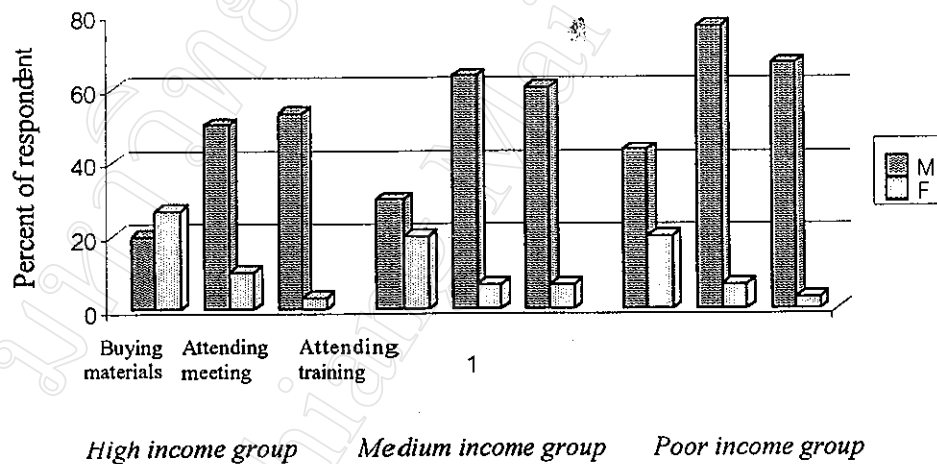


Figure 6.4. Selected decision making about household activities by gender and economic status

Source: Survey, 1998.

6.2 Indigenous knowledge

Indigenous knowledge has recently been recognized as an important means for sustainable development. Indigenous knowledge contributes to the sustainability of both natural resources and the productivity of the systems. According to Farrington and Martin (1998), the prospects of success of innovations brought in from outside will be enhanced if they are built upon indigenous knowledge. Where this is not done, the risk of failure is high. It has been recognized that indigenous knowledge differs among the members of households. Therefore, one should not overlook gender based indigenous knowledge. This chapter reveals the difference of Binh Dien men's and women's indigenous knowledge in utilization and management of local resources. In this study, it was possible to look at only some aspects of indigenous knowledge from gender perspectives. This information was obtained from a PRA exercise using separate women's and men's group interviews.

6.2.1 Indigenous knowledge of soil conservation

In the production process, local farmers have discovered for themselves some measures to maintain soil fertility and prevent erosion. They plant bushes around the field to reduce erosion and prevent the effects of wind. Because of the lack of capital and far distance from market service, local farmers help themselves to improve soil fertility by making compost from livestock waste and some wild plant species called "boi" and "tu bi", or crop residues such as peanut vines and rice straw. Hole were made behind pig or cattle sheds in which livestock waste was mixed with rice straw or "boi" and "tu bi" stem, or peanut vines which were cut into small pieces. After about one month they can apply this compost to crops. Besides making compost, green manure has also been applied to maintain soil fertility. According to the local farmers, compost and green manure are very good organic fertilizers compared to chemical fertilizer such as nitrogen and phosphorus which made the soil harder. Moreover, mulching method has also been adopted to conserve the soil. The stems of mungbeans have been used to mulch around rubber trees. Besides, stems of other crops such as

rice, or leaves of banana have also been used as a mulch to retain soil moisture to facilitate germination of vegetable seeds after sowing. This method is often practiced by female farmers because vegetable cultivation is women's responsibility. Planting trees on high sloping land to prevent erosion, and intercropping legume crops such as mungbean and peanut in young rubber plantations were also adopted as soil conservation practices by Binh Dien male farmers. The men who were interviewed in a separate group said that intercropping was carried out primarily to effectively use land space but, they felt that this method also makes the soil softer and could reduce weeds.

The soil conservation practices were listed in a questionnaire and used in interviews with Binh Dien women and men in separate groups. The results of these interviews are presented in Table 6.5. The interviews indicated that both men and women know popular soil conservation practices. However, the number of soil conservation methods which were known by men was greater than that by women and they described all these methods more specifically than women (except mulching). This is the result of higher education and much more contact with outsiders amongst husbands. The women in the group interview answered that due to the participation of husbands in this kind of production they learnt these soil conservation practices from their husbands.

Table 6.5 Indigenous knowledge of soil conservation practices by gender

Soil conservation practices	M	F
Planting bushes around the field	Y	Y
Application of compost	Y	Y
Application of green manure	Y	Y
Mulching	Y	Y
Intercropping	Y	N
Planting the trees on sloping land	Y	N

Note: Y = know the methods; N = do not know the methods.

Source: PRA, 1998.

6.2.2 Indigenous knowledge in water resource conservation

In all upland areas of Vietnam, water resource conservation for domestic use and for production is very important. Especially in the conditions of complex terrain as in Binh Dien commune where the development of a perfect irrigation system is very difficult and requires a large investment. Therefore, there was no big irrigation system which is often constructed by the support of the government in the commune. The local farmers made small dikes themselves to conserve water for irrigation for crops and fish raising. Moreover, they also made some small dikes with different height levels to create electricity for home use. The interviews of women and men on how to conserve water resources reflected that both Binh Dien male and female farmers know how to make small dikes to conserve water for irrigating crops but the way to construct the dikes in order to create electricity was only the men's domain. Beside the measures to conserve water resources for production, the local people also know how to conserve and prevent water pollution for domestic use. The women's group explained that in the dry season when water levels in the stream where woman often washed clothes and bathed their children was low, they had to make walls to conserve water for washing. Management of drinking water for the household was also mainly women's knowledge. Due to the responsibility of supplying water for the family, the women know some ways to reduce contamination of drinking water such as collecting water at a location beyond the point where washing and bathing take place, carrying drinking water in a covered container, cleaning the water container as much as possible, keeping the container covered, and keeping the water container on a high platform out of the reach of children and animals. Although these methods were very simple, but the men were not concerned with them, so they did not know about them. The separate group interviews reflected that water resource conservation for production was predominantly the role of the men while that for domestic use was the women's domain (Table 6.6).

Table 6.6 Indigenous knowledge of water resource conservation by gender in Binh

Dien commune

Water resource conservation practices	Male	Female
Making small dikes for irrigating crops	Y	Y
Making small dikes for creating electricity	Y	N
Making the walls in the stream to conserve the water	N	Y
Collecting water at a location beyond washing and bathing places	N	Y
Carrying drinking water in a covered container	N	Y
Cleaning the water container	Y	Y
Keeping the container covered	Y	Y
Keeping the water container on a high platform	N	Y

Note: Y = know the methods; N = do not know the methods.

Source: PRA, 1998.

6.2.3 Indigenous knowledge of treating diseases of crops and animals, and animal breeding

As the author described in the fourth chapter, the cropping subsystem in Binh Dien was a low-input system. The farmers in the region rarely used insecticide in the cultivation of most crops. Only some households sometimes applied pesticide in rice production. However, indigenous knowledge in treating diseases of crops was very limited. All women interviewed in the group meeting answered that they did not have any way to treat diseases of crops. For the group of male farmers, they said that intercropping and rotation could reduce destruction of crop by insects.

For animal production management, the women have some experience in treating some normal diseases, and in breeding of pigs and chickens and the men knew some ways to treat normal diseases of cows and increase the efficiency of the natural breeding of cows (Table 6.7).

Table 6.7 Indigenous knowledge of treating normal diseases of animals and breeding by gender

Indigenous knowledge	M	F
Treating constipation diseases of pigs by leaves of papaya	N	Y
Treating colds of chickens by garlic	N	Y
Increasing the efficiency of natural breeding of chickens by keeping only one male chicken in the flock.	N	Y
Treating diarrhoea diseases of cattle with shoots of "Tu Bi" (<i>Blumea balsamifera</i>)	Y	N
Increasing the efficiency of natural breeding of cow by keeping only one male cow in the herd	Y	N

Note: Y = know the methods; N = do not know the methods.

Source: PRA, 1998.

6.2.4 Indigenous knowledge of product storage

As the storage of crop products was the responsibility of the Binh Dien women, only the women's group knows how to store some crop products. The men in group meeting said that if you want to know local knowledge about product storage, one should ask the women. All of the women who attended the group meeting know the way to store mungbean and peanut seeds. They said that the first condition to keep these products for a long time was cleaning and after that drying them as much as possible. After drying, mungbean seeds were mixed with dry chili or ash and then put into a bottle which was covered carefully. For peanut seeds, they put them into a plastic bag after drying, then dried the seeds or nuts in the sun again at least every 2 months.

6.2.5 Indigenous knowledge of wild plants for food and fodder

Field, hill and forest are resources which provide food for the family every day for mountainous people (Nham, T., 1995). This was also true in Binh Dien. As we said in the fourth chapter, because of water shortages, vegetable cultivation in the

hilly area of Vietnam in general, and in Binh Dien commune in particular is very limited. Greens are food items which can not be missed in the meals of Vietnamese, so, gathering and using wild plants for food and fodder is very popular in the region. The wild plants are gathered in the fields, hills and the forest and they are used both fresh and processed. The group interviews found that Binh Dien women gathered and used more wild plant species than men for food and fodder. Due to the responsibility of cooking and food preparation for family members as well as pig raising, the women interviewed gathered and used at least 17 wild species for food compared to only 6 species that were collected by the men (Table 6.8).

Table 6.8 Wild plant species gathered and used for food and fodder by gender

Wild plant species		Who gathered and used	
Local name	Scientific name	M	F
+ Using for food			
Den hoang khong gai	<i>Amaranthus viridis</i>	-	*
Rau sam	<i>Portulaca oleraceae</i>	-	*
Tau bay	<i>Gynura crepidioides</i>	*	*
Muong trung	<i>Polygonum sinense</i>	-	*
Cay rau ma la rau muong	<i>Emilia sonchifolia</i>	-	*
Rau trai (Thai lai)	<i>Commelia communis</i>	-	*
Mon voc	<i>Schismatoglottis caluptrata</i>	-	*
Sang	<i>Zanthoxylum nitidum</i>	-	*
Rau ma	<i>Centella asiatica</i>	*	*
Cang cua	<i>Peperomia pellucida</i>	*	*
Ma de	<i>Plantago major</i>	-	*
Rang	<i>Asplenium varians</i>	-	*
Mo tron (Thui dit)	<i>Paederia foetida</i>	*	-
Chua me dat	<i>Oxalis corniculata</i>	-	*
Ngo tay	<i>Petroselinum crispum</i>	*	*
La lot	<i>Piper lolot</i>	-	*
Dap ca suoi	<i>Gymnotheca chinensis</i>	*	*
Thu lu bao (Thom bop)	<i>Physalis angulata</i>	-	*
+ Using for fodder			
Deu	<i>Alteranthera sessilis</i>	-	*
Mon nuoc (Khoai nuoc)	<i>Colocasia esculenta</i>	-	*
Rau trai (Thai lai)	<i>Commelia communis</i>	-	*
Den hoang khong gai (Den com)	<i>Amaranthus viridis</i>	-	*
Den hoang co gai (Den gai)	<i>Amaranthus spinosus</i>	-	*
Thu lu bao (Thom bop)		-	*

Note: * gathered and used; - do not gather and use.

Source: PRA, 1998.

The PRA exercise also found that Binh Dien men did not gather and use wild plants for pig raising while the women collected and used 6 species for this. Moreover, the women also knew where to collect these species. Especially, they knew the way to conserve these wild plants, for example, when they gathered the species which were able to regenerate by shoots, they never took their roots. For the species which could be regenerated by seeds, they often kept some so that they can have seeds to grow them later.

6.2.6 Indigenous knowledge of wild plants for medicine

Eighty percent of the world's population is dependent on traditional medicine and medicinal plants for their health security. The conservation of pharmaceutical biodiversity, like the conservation of agricultural biodiversity, is critical to the survival of developing countries in general and indigenous people in particular (Sarah, T., and Luis, G. E., 1993). To conserve medicinal plants for local people's health security, data collection on plant species which have been used for traditional medicine is very necessary.

The women's and men's group interviews showed that both Binh Dien men and women gathered and used plants to treat normal diseases and improve their health. It was found that the number of plant species which were gathered and used for medicine by Binh Dien women and men was not different. The results show that 25 and 26 wild and domestic plant species had been used by local men and women respectively (Table 6.9). Almost all normal diseases (especially children's) are been treated by domestic and wild plants. Actually, because of the responsibility of taking care of all family members, almost all Binh Dien women know clearly how to use these plant species to treat normal diseases. In the group interviews, the women described specifically the way to treat the diseases by using these plants. When asked, the female farmers said that they learned these experiences from their mothers. Although the number of domestic and wild plant species gathered and used by the men was nearly the same when compared with that of women, but from the group

interview it was reflected that only a few men know how to use the plant species to treat normal diseases. Some other men said that they saw their wives use them so they know the name of the species but they did not know how to use them.

Table 6.9 Plant species gathered and used for medicinal purpose by gender

Wild plant species		Who gathered and used	
Local name	Scientific name	M	F
+ Treating digestive diseases			
Sim	<i>Rhodomyrtus tomentosa</i>	*	*
Tu bi	<i>Blumea balsamifera</i>	*	-
Phan xanh (Boi, Co lao)	<i>Chromolaena odorata</i>	*	*
Rau sam	<i>Portulaca oleraceae</i>	-	*
Bach bo	<i>Stemona tuberosa</i>	*	-
+ Increasing the health			
Dinh lang	<i>Polyscias fruticora</i>	*	*
Ha thu o do	<i>Polygonum multiflorum</i>	*	*
Cam thao dat	<i>Scoparia dalcis</i>	*	-
Mon thuc	<i>Homalomena aromatica</i>	*	*
Mon voc	<i>Schismatoglottis caluptrata</i>	*	*
Ma de	<i>Plantago major</i>	*	*
Rau ma	<i>Centella asiatica</i>	*	*
Ngu gia bi	<i>Acanthopanax aculeatus</i>	*	-
Xau ho	<i>Mimosa pudica</i>	*	*
+ Treating pimples, bruises			
Co dang	<i>Polygonaceae sp.</i>	-	*
Bo cong anh	<i>Latuca indica</i>	*	*
Ke hoa dao	<i>Urena lobata</i>	*	-
Cho de	<i>Phyllanthus urinaria</i>	*	*
Cay rau ma la rau muong	<i>Emilia sonchifolia</i>	-	*
Cai troi	<i>Blumea subcapitata</i>	*	-
Sau dau rung	<i>Bruceae javanica</i>	*	*
Ngu trao	<i>Vitex negundo</i>	*	-
+ Treating cold catching: Dap ca	<i>Houttuynia cordata</i>	*	*
La bong	<i>Kalanchoe pinnata</i>	-	*
Co muc	<i>Eclipta alba</i>	-	*
Muong trung	<i>Polygonum sinense</i>	*	-
Ray nuoc	<i>Alocasia odora</i>	*	*
Sa	<i>Cymbopogon citratus</i>	*	*
Tia to	<i>Perilla ocymoides</i>	*	*
+ Treating women's diseases			
La vang	<i>Jasminum subtriplinerve</i>	-	*
Buom bac	<i>Mussaenda pubescens</i>	-	*
Ngay huong	<i>Rubus cochinchinensis</i>	-	*
Ngai cuu	<i>Artemisia vulgaris</i>	*	*
Rau ngot	<i>Sauropus androgynus</i>	-	*
Co hoi	<i>Ageratum conyzoides</i>	-	*

Note: * gathered and used; - do not gather and use.

Source: PRA, 1998.

6.3 Access to land, information, credit and training by gender

Additional gender-related questions were asked regarding access to credit, land ownership, various information, organization, and training. Table 6.10 shows that almost all people who are entitled to own land are the men in all household groups. As mentioned in Chapter 3, even though the land law in 1993 was that all people who live in rural area are assigned land use right equally, but due to implementation procedures, most of people who are entitled to land are the men except in cases when women are heads of the households. In theory, Vietnamese women are treated equally under the law but in reality when the couple divorce, it is very difficult for the women to take their assets as the certificate of land use right was in husbands' names. Among 90 households which were surveyed, there were two cases where the women have to come back to their parents' houses to live after their divorce. Listening to the voice of a woman in India: "Please go and ask the sarkar (Government) why when it distributes land we do not get a title. Are we not peasants? If my husband throws me out, what is my security?" (Agarwal, 1994). It was argued that one of the obstacles to increase the agricultural productivity and income of rural women is their lack of security in land tenure. Land tenure refers to a set of rights which a person or organization holds in land. Access can be through rights of ownership and use, but it can also be through informal concessions granted by individuals to kin or friends. There are thus several ways by which a women may, in theory, have access to land, but of these, having "rights" provides a measure of security that the others typically do not (Agarwal, 1994). This is also true in Binh Dien commune. When the author went there to survey, a woman who divorced her husband told us that her husband was entitled to their land and house. After their divorce, her husband gave his brother the right to settle and use the land and house. She and her children had to come back to her parent's house to live, although in theory, she has ownership rights to the land which were issued under the law. Because certificate of land use right borne only the husbands' name, the wives in the families which has disagreement can loss security in land use.

Table 6.10 Access to land, information, credit and training by gender.

Household group Items	High income		Medium income		Poor income	
	M	F	M	F	M	F
---Percent of respondents---						
Land title	93.3	6.7	93.3	6.7	83.3	16.7
Representation in social organization	20.0	6.7	16.7	3.3	3.3	0
Access to credit	50.0	26.7	46.7	16.7	23.3	6.7
Access to information	83.3	61.1	64.7	23.1	33.3	16.7
Access to training	50.0	16.7	50.0	6.7	13.3	0.0

Source: Survey, 1998.

Thelma P., and Joyce L. (1990) reported that interviews with Philippines men and women revealed that men had greater access to loans from the banks, while women had more access to informal loans with higher rates of interest. This is also the same in Binh Dien, there was also gender discrimination in credit access in all household groups. The rate of high, medium and poor income men who had access to credit is two, three and four fold respectively that of high, medium and poor income women. This is related to their entitlement under the land ownership certification papers. Only people who are entitled in big assets' ownership certification paper (land, house) can borrow money from the banks. Even capital sources from the development projects were also given to people who are the households' headers often are men. In families with conflicts due to the men often are drunk or have gambling, it is very difficult for the women to invest themselves in production to improve their life. Although there is a credit program for poor women, but it is too small and some very poor women could not get access to it because of the lack of recognition from the local authority. Mrs. Gai, a widow women in Vinh An village of Binh Dien told the author that she wanted to get only a small loan to raise pigs but she could not because she was so poor that even the woman who was the head of village women's union did not recognize her. Another problem in giving a loan is inequality

in loan implementation by local officials. For example, there were credit programs for the poor with low interest but in reality, these loans are given to high income people who are relatives of local officials.

Thelma P., and Joyce L. (1990) revealed that in the Philippines, training classes were mostly attended by men. In the same way, farmers who attended training activities in Binh Dien commune were mainly men. The rates of high and medium income men who attended training activities were three and eight fold that of high and medium income women. There was no poor woman who attended in any training activity. The traditional view was that women are less understanding than compared to men. Therefore, it is better than to give the men opportunity to attend training activities. Another reason was that heavy housework took too much time of female farmers and reduced their attendance in training activities. Housework was considered as women' responsibility. So, the men can go out to attend outside activities while the women have to stay at home to do housework at that time.

The survey also found that there was also gender discrimination in access to various information sources, especially in poor households. This was also influenced by traditional view which considered that women are only housewives so the men can listen to radio or watch television or talk with outsiders while the women are doing housework. When the author went the area to do the survey, it was observed that in the evening, when almost all husbands was listening radio or watching television or talking with neighbors but at that time their wives had to prepare food for tomorrow's breakfast or for animal.

It was also found that the rate of men who are representatives in social organizations in the region was higher than that of women in all income groups. Almost all people who work in people committee, people council, agricultural cooperatives, farmers' association, young people union at both commune and village level are men (except in women's association). The influence of Confucianism for a

long time which considers that women have less knowledge than men so they only have a limited role in social management. Therefore, the men in Binh Dien in particular and in other rural areas (even in urban areas) in general have more chance than women in working in social organizations. It is clear that, there was still gender discrimination in representing in social organizations.

6.4 Women' s constraints to improve productivity and welfare

The efficient utilization of family labor may contribute largely to the sustainability of the farm's productivity (Timsina, 1990). Therefore, it is useful to discuss some factors which constrain productivity and welfare of the women to make more efficient farm's production and development. In general, Binh Dien women had to work hard, especially women in the low economic status group. However, the market value of a woman's labor day in Binh Dien was lower than for man. Why is it? When asked, the farmers in the region reported that according to them, the productivity of a woman's labor day was lower than that of a man's. Although the research could not compare the productivity of woman's and man's labor day, but through other findings we can show some factors which constrain the productivity and welfare of women.

Firstly, the most important factor which constrains productivity of women is lack of knowledge. As the author presented in chapter III, the average education level of the man who was the head of the household was higher compared to their spouse in all economic status. In 90 interviewed households, there were 4 principal farmer females who were illiterate while there was only one illiterate male. This is alarming because although Binh Dien is one of the mountainous communes, it is not so far from the Hue city, but it still has a high illiteracy rate, especially among women. The women were not old but could not read and write Vietnamese. Existence of the ideology of "preferring a boy than a girl" leads to gender discrimination in sending the children to school. In high income households, both boys and girls could be sent to school, but the children who were sent to higher schools were often boys. Although

the Vietnamese government issued a policy of free primary school service, but because other fees such as living expenses and books, etc. still were high so many poor households could not send their children even to primary school. Therefore, in poor households, some children were not sent to the primary school. The children who got the priority to study in poor households were often boys. In 30 interviewed poor households, two girls were over the schooling age but were illiterate and 4 female children in schooling age did not go to school. Gender discrimination in education leads to the situation of a low quality of women and female children labor force (Binh, 1997).

Lack of knowledge was also a result of lack of access to information and training. In Vietnam, 80% of newspapers are distributed in the city, therefore, only the remaining 20 % of newspapers are distributed in the rural areas (Thi, 1998). The limited amount of newspapers, radios, televisions and other communication facilities in the region along with the responsibility of work (production and reproduction) reduced Binh Dien women's access to information and entertainment sources. Moreover, because of their busy workload and the influence of feudal ideology which only considers women as housewives, Binh Dien women have fewer opportunities to attend meetings and have contact with outsiders. The number of women who attended training classes was lower than that of men in all household groups. A low education level and the lack of access to various information sources leads to less understanding in production techniques, marketing knowledge, and others of Binh Dien women so that they constrain the productivity of Binh Dien women as well as their welfare.

The second important factor, which reduces Binh Dien women's productivity is the restriction of access to productive resources such as land and credit. Due to the fact that the people who are entitled to land ownership certification papers were men, women who divorced did not have land for production. Especially, in poor households (in which widowed women occupy a high proportion), the women could not get access to forest and industrial crop land because scarce land resources were distributed to high income households who had funds from certain projects. Listening

to the voice of a woman in Vinh An village: "I want to expand my sugarcane planting area because I know this production makes a profit but, I could not because of lack of land". Credit is also a very important resource for production. Binh Dien women had less opportunity than men to borrow capital from the banks and projects. Men were entitled to land ownership certificates so they got loans from the banks and projects. Especially poor women in Binh Dien, they did not have big assets and they were not recognized by local officials so they could not get loans, even the loan from the "credit program for poor women" which was distributed for the wrong purpose and objects in many cases. Constraints in access to capital lead to a lack of investment in production and reduced productivity of women.

Another factor which is not less important as a constraint to the productivity and welfare of Binh Dien women is the fact that they have too many children and heavy housework. Most of Binh Dien women who are of reproductive age have from 5 to 6 children. In contrast to other areas, the women in the region generally contributed nearly equally labor days to production compared to men. However, the responsibility of looking after children and all the family members took too much toll on their health. This reduced their productivity. After they spent time in production, they had to do housework while the men could listen to radio or watch TV, so the women did not have time for entertainment. It is clear that housework limited the welfare of Binh Dien women.

The factor, at a macro level which reduced the productivity and welfare of Binh Dien women is lack of infrastructure. The transition of economic mechanism from central planning to the market economy has led to a reduction of the government's investment in constructing infrastructure, especially in rural areas. In Binh Dien commune, almost all the villages did not have a kindergarten or have them but only with in poor condition. Therefore, the women had to spend more time looking after their young children who are not yet ready go to primary school. Sometimes, they had to work in the field and look after them at the same time. This is also an important factor which reduced Binh Dien women's productivity and health.

There were only a few wells which were constructed by funds of the NAF (Nordic Assistance for Vietnam) organization (NGO) so there is not even enough drinking water for local people. The local authority did not support the construction of more wells. Major domestic water sources in the commune was still from natural streams. Since washing and fetching drinking water were responsibilities of the women, the lack of wells took more time and put an extra burden on the health of the women, especially in the rainy season.