CHAPTER VI
PERCEPTION, CONTEXT AND DECISION-MAKING IN AGROFORESTRY

Farmers changed their practice from fir to fruit tree growing is a process of land use decision-making as well as strategy selection. The behavior and decision-making are influenced by people's perceptions of and access to resources. Depending on different access to resources and perceptions, farmers have adopted different strategies of tree cultivation. Since the introduction of the market economy, the socioeconomic context of forest management and meanings of forest resources have changed. Farmers' needs and aspirations on the forest management have altered too. This Chapter examines how farmers make decisions of tree cultivation. I investigate the differences in the attitudes and the results associated with tree cultivation. Through this process I have attempted to answer my original on the reasons why farmers have changed their practices of tree cultivation and what factors have influenced their decision. First, this chapter analyzes farmers' decision-making of tree cultivation and classifies farmers' strategies with different models. I identify the factors influencing these strategies. Then, I look at some attitudes and conflicts through the eyes of different decision-makers. I attempt to understand the kind of decisions they make and why they believe the way they do. The purpose is to understand how a person or group sees their choices and to recognize, and what their context is related. Lastly this chapter is a discussion of the way that Miao farmers negotiate with changes.

6.1 Diversified Strategy Models of Tree Cultivation

Variations in tree growing reflect not only resources restrictions, but also multiple livelihood strategies. People make decisions is in terms of their own perceived interest. In Tageba farmers growing tree is a response to household needs and market opportunities. As Scott (1976) identifies farmers have the "safely-first ethics." Farmers growing tree often consider maximum returns and take steady and lower paying over their land. According to these ethics, they would consider alternative use of land, even though they have lower overall returns, if they lead to greater security. For instance, farmers in Tageba have changed their fir

to fruit farms because they wanted shorter rotations. To go back to my original theory about the factors leading to decision-making, we can see that farmers distribute use of land and labor among various tree, crop and livestock practices depending upon their self-interests and feeling and their understanding of resources meanings.

Indeed, Scherr (1999) points out that farmers' decision-making is based on how poverty and economic risk reduce incentives to their investments. This also relates to my original theory about the access to resources leading to decision-making differently. In Tageba, farmers have planted more densely in lines than recommended in silvicultural guidelines. Farmers have frequently established trees in annual crop fields to reduce establishment costs and generate early cash income from the land. They attempt to expect greater returns per area of land, because invest in tree growing they have to undergo great economic risk.

Apart from these two theorists, in real life decision-making situations the farmers have their own meanings for a course of tree cultivation. Their actions satisfy a set of needs. The theory behind this is known as needs discourse theory and is mentioned in Chapter V, where it says that farmers grow trees for numerous needs as different discursive practices. Further, each needs discourse will lead to a particular resource use pattern and strategy selection.

There are different ways for farmers to grow trees in Tageba. Large land households and small land households employed different tree cultivation practices. Based on different access to resources as well as needs discourse, farmers have different strategies and patterns of tree cultivation. Some farmers adapt large fruit tree cultivation because they have large land or labor forces. Some farmers are not interested in tree management because they make more money from ways labor. Some farmers are concerned with fir cultivation because they need timber to build the house. To understand the reasons farmers enter various types of tree cultivation, it is not only necessary to know something about tree cultivation, but also about the total multiple opportunities from which farmers can select. At this point, I will not attempt to describe all the choices farmers have actually made, but rather the "final products" of these decisions. The overall patterns from which they could select classify farmers' tree cultivation in Tageba as follows. 1) Large fruit tree cultivation; 2) Small fruit tree cultivation; 3)Timber tree cultivation; and 4) Non-tree cultivation. All of these patterns reflected the experiences

accumulated by farmers and access to resources as well as the different local meanings of trees. Some of the important features of these four strategies with implications for farmers'strategies are summarized in the table below.

Table 6-1. Farmer's Adaptation/ Adjustment Strategies in Tageba

Context and Pattern		Adaptation strategies			
		Large fruit tree Cultivation (10%)	**Small fruit tree Cultivation (60%)**	**Timber tree Cultivation (25%)**	**Non-tree Cultivation (5%)**
Assess	Land	-Large land areas	-Someone is large landholder; someone is small landholder	-Large scale, primarily barren mountains	-Land less
	Labor	- Labor in surplus.	-Some household labor in surplus; some household labor limited	-Labor limited	-Labor limited
	Market	-Access market easily -Fast response to price change. -More dependent market	-Easy access to the market -Fast response to price change. -Market dependant	-Access to market difficult --Respond to price change slowly -Independent of market	-Access to market difficult -Dependent on market
	Technology	-Has advantage in fruit tree technology	-Limited by fruit tree technology	-Mostly traditional fir cultivation knowledge	-Limited tree management knowledge
	Education	-Excellent education	-Restricted by education	-Restricted by education	-Excellent education
	Transportation	-Near road	-Near or no so far away road	-Far away road	-Not relevent
	Social Capital	-Good relation with businessmen or bus diver -Relatives in city	-Some relatives can help sell products.	-Good relations with the local government	-Strong relationship with urban areas -Relatives in city -Friends in city
Needs Discourse and perception		-Fruit trees earn more money more than timber trees or other crops -Believe that fruit can sell at high prices. -When building houses, buy timber in market	-Fruit trees earn more money -Timber tree also important for house building.	-Building houses use timber -Fruit not sold easily -Pear storage not easily -Producing own timber for constructing house important.	-Growing trees wastes time -Growing trees has too high inputs -Grow trees requires technology
Pattern and Model		-Mono-cropping -Selective Multiple corpping -Industrial model	-Multiple- cropping -Fruit tree, timber trees, and vegetables mixed. -Petty commodity or subsistence model	-Fir and pine only in remote areas -Subsistence model of cultivation followed -Petty commodity model	-Not relevent
Other		-Hire labor -Need faster returns -Need fruit for domestic consumption -Depended both own resources those provided by outsiders -Overall, pattern is unsustainable	-Self-managed -Need faster returns. -Need fruit for domestic consumption -High dependency on own resources. -Sustainable pattern	-Off-farm activities important. -Sell labor in urban areas. -Need timber for building own house -Depended on own resources -Overall pattern is sustainable.	-Off-farm activities important. -Sell labor in urban -Need income faster. -Dependent on resources of outsider -Overall pattern is unsustainable.

Source: Household Survey in Tageba, 2002.

(1) Large fruit-tree cultivation

This model is usually chosen by households with large land or labor force surpluses. In these households, farmers have good technology for fruit tree management, such as grafts, and

fruit storage. In Tageba, there were 16 households with fruit tree plantings of more than 30 mu. Usually, these families cooperated closely with clan or pal family. They resided in Dade and Shibanqiao, near the highway no.210, where access to the market was easy. Their production could easily be sold in Taijiang market or to bus drivers around highway. Some households had good relationship with businessmen or had relatives working in cities. The species on their farm were simple. One or two kinds of tree were planted as an industrial model. Generally, these farmers of large fruit-tree cultivation think that growing fruit trees can make much money and faster returns than growing timber trees, such as, fir, pine or bamboo. As a farmer in Dade village reflected: "Growing pears is much better than growing fir. Even now the pear price has dropped, Growing pears still benefits more than fir. I believe the pear price will increase following urban people's rising consumption and pear farmers will get rich." Farmers grow trees for the practical purpose of making money just as would be predicted by economic discourse. They do not pay attention to animal husbandry. Only a few sheep, goats, cattle and pigs are raised.

In contrast, in Shibanqiao village fourteen small land households have also adopted large fruit tree cultivation. In their fruit farming they aim for more short-term gains because their land shortage precludes them from having enough left over for parallel production to take care of their subsistence needs. All of them had the same perception of tree cultivation. "For us, land is important. We need faster returns from tree growing. So growing fruit trees is the best way to make money. If I grow fir or other trees, we have to wait long-term." Farmers whose land is too small for food self-sufficiency can increase their income through using shorter return crops or fruit trees cultivation.

(2) Small fruit tree cultivation

This pattern is the most widespread pattern in Tageba. More than 60 per cent of the households adopted this strategy. Farmers in Shangten, and Xiaten villages usually selected this pattern of tree cultivation. These households constructed a small fruit farm (general 2-10 mu) around their house or vegetable garden. Also they grew some fruit trees such as pears, peaches, and oranges along with their fir and pine. These few timber forests were still maintained on remote mountains. The household consumed fruits or sold a few fruits to

market. These households were mostly restricted in some important elements, for example, they had restricted amounts of land or labor, their land was far away from the market, or they were short of finance. The actual tree cultivation pattern usually followed large fruit tree households. In their farms, trees were planted in the borders, lower quality areas, and interstitial fields. Generally, one intercropping system was adopted. Farmers often mixed fruit trees with other crops as spreading output across several products and over the different seasons reduces their risk. Poor farmers with small land areas concentrated on planting fruit tree species which could produce food and short-term income. Their family cannot risk depending on long-term tree crops—especially when land tenure is insecure. Also unlike large tree cultivation farms, these households tried to maintain their income through increased participation by household members in off-farm activities, diversification of on-farm production or developing other earning projects.

These households with less fruit tree cultivation have different interpretations of tree cultivation to those who do carry out large-scale tree cultivation. Most of them think that "growing fruit trees is good for earning incomes, but I don't have enough funds for investment." Some of them said, Growing fruit trees needs higher technology than other trees. they know only a little about tree grafting and fruit storage. So they just grow several mu of fruit around the house. Thus, in their farms tree densities are increasing, or being maintained on arable land capable of supporting crops that would generate more revenue, because these crops would require higher intensities of labor use and capital.

(3) Timber Tree Cultivation

Those households with inadequate labor, such as households with land located in remote mountains, low fertility land, or low education, for example those with imperfect or insufficient knowledge of scientific fruit tree management technology usually adopt timber tree cultivation because lack in these factors leads them to have insufficient ability to organize a fruit farm in it's entirety. They carry out traditional timber-based cultivation with fir and pine being the main species grown to meet both their economic and timber needs. These farmers reside in remote villages where transportation is difficult, such as, Shangten and Xiaten villages. The remoteness of their holdings is a major factor in them lacking in other

necessary characteristics, for example education, and fertilizer, and at the same time it makes fruit farming impractical. Their remoteness means that fruit cannot be taken to markets in time. At the same time some of them need fir timber to build new houses. So they have to manage the forest for long-term benefits, and to get household cash income through off-farm work. Actually, this pattern is the sustainable model of tree management. And overall farmers earn more income from timber tree cultivation than fruit tree cultivation, even if it takes as least 18 years to wait for returns. Farmers interpreted their timber cultivation like this: "fir is useful for us. In the future, my son may need it to build the house. Even it has lower returns than fruit trees, I believe someday it may be useful."

(4) Non-tree Cultivation/Off-farm Employment

A few special households in Tageba select non-tree cultivation strategies. They have special sources of income, such as, organizing small stores, running restaurants, and driving buses. Some non-tree cultivation households may be have a number of people ways labor in the city, and just a few older men or children staying at home. In Pingqiao village, many households have adopted this strategy. They wored as labor in the new road construction. They thoght that growing trees is "wasting time."

> I have not time to manage my forests. Actually, growing tree wastes the time and money. You need to work hard and put so much into the fruit farm, and the actual outputs are lower. If I build a house, I can buy timber from other villages, depending on how much money you have. So earning money is important for me. My work is aimed at making more money (a farmer in Pingqiao village, 2002).

This sort of attitude is viable for someone who has marketable skills, but a man whose only skills and experience are in agriculture might be forced to think of increasing his income through buying additional land, or at least keeping the land he has. There may be no other business he can enter, given his skills, and no other investment he can make. For him to sell his land would be to sell the only means he has of making a living.

In general, rich farmers are more likely to adopt fruit tree cultivation than the poor farmers, because their resources make them more able to afford the fixed (indivisible) costs involved in any innovation, and more likely to be able to survive anticipatable fluctuations in output. Poor farmers are more willing than rich farmer to adopt timber tree cultivation because

"its long-term but inputs are low, prices certain, and risks low." Through all of this discussion we can see that in the face of increasing market forces, Miao farmers today seem to be more rational in their forest management, running their lives with considerable economic acumen. The marker eocnomy changed farmers ideology of forest. Depend on different access to and understand of resources, farmers have different goals and needs for forest mangement.

6.2 Contextual Factors and Strategy Choices

There are a series of factors influenced farmers' decision in tree cultivation. According to previous research, they included tenure arrangements, household subsistence considerations (Scherr, 1999), and competing uses of labor and capital (Dewees,1995). As I have already discussed, observation made by these scholars still valid today in Tageba. Farmers' strategies were determined on the basis of economic, social, and cultural factors, as well as more straightforward geographical considerations. Farmers' decision to plant trees was primarily a strategy selection about how much land they could devote to the tree. This decision may involve selection either from the perspective of the number of trees planted or from the perspective of the proportion of land devoted to the perennial crop. The logic of farmer's decisions depends both on factors common to all farmers in the wider community, (e.g., current and expected prices of the crops under consideration) and factors specific to each farmer (e.g., the amount of land available for planting). Farmers may invest in agroforestry cultivation differently depending on different access to land, labor and social capital.

6.2.1 Land and Labor of Family

An important factor relating to tree cultivation is land. In Tageba, high population growth rates and fruit-tree industrialization have increased competition for access to land. Due to fruit-tree industrialization, much former idle land on the remote mountains is now used for tree cultivation. However, the insecurity of land tenure is a disincentive to long-term investments on trees cultivation. In Tageba, 90 percent of farmers considered secure property rights are an important precondition for setting up agroforestry farms. As I described in chapter III, after 1949, tenure forms in Tageba have changed several times according to the national policy interests.

> Land policy changed many times in history. For instance, in the Cultural Revolution period, the state controlled all land. All private activities were prohibited. Currently, land use is free absolutely. I don't know about the future. Some people have told me that maybe land should be redistributed again because now many people thought land unequally. We planted trees due to the stable policies on state land during the recent years. If policies were still like before, nobody would be willing to grow tree (a farmer in Shibanqiao village, 2002).

Their past experience has made them feel insecure. They have expressed anxiety about the instability and continuity of the preset land policies. When the households were allocated forestland, they have simply managed to get the maximum and quickest return instead of investing in forest development for long-term optimal benefits. They would have to wait at least 18 years to enjoy the economic benefits of timber forests planted today. In fact, the high risk and initial cost for forest development are discouraging individual households from pursuing such long-term investment in tree cultivation.

Other important issues determining the tree cultivation of households was the land holding. As I mentioned in chapter IV, within villages, the initially equitable distribution of land has been broken, as original allocations have increasingly failed to keep pace with changes in household population. For example, in Dade and Shibanqiao village, mostly large land households planted pears. For small land households, fruit trees must be planted on steeply sloping areas. Their limited rich land should be used to grow vegetable or other cash crops, because growing fruit trees has no returns for the first 3-5 years.

Insecurity of tree tenure also affects the farmers' decision of tree cultivation. The official policy on tenure in tree identifies that "tree follows the land. Whoever owns the land owns the trees that grow on it." If this policy was carried out, it would have encouraged tree planting more. Actually, this policy has not been carried out in tree cultivation in Tageba. Farmers in Tageba view trees and land as separate issues. A farmer in Shibanqiao village gave this reason. "Trees always change. Sometimes people grow trees and sometimes people cut them. Trees are not like the static land." In agroforestry, farmers are interested in trees more than the land. In the eyes of farmers in Tageba, one can "..., dispose of fruit trees and fruits require no permission from the local government. Moreover, forest policies have sometimes changed fast during the past 40 years."

The number of family members of laboring age, and the health and capacities of the laborers has had a large impact on agroforestry practices. Fruit tree cultivation requires high labor inputs. According to the field data from Dade village, one hectare of fruit cultivation requires an average of 125 days of labor inputs per year, about three and a half times higher than the labor input for vegetable cultivation, and ten times higher than that for fir. This situation has created dependent wage labor relations akin to patron-client relationships on fruit farms, with the wage laborers being dependent on the fruit farm operators. In practice, in Tageba sicnce 1980 the wage laborers have increased while tranditonal exchange labor declinced. It resulted the shortage of labor for tree cultivation, such as, soil preparation, sowing, weeding, and fruit harvesting. Therefore, many surplus labor households often have better opportunities for working and expanding a tree farm, households with scarce labor have been excluded from fruit tree growing. Scarce or abundant labor can lead to quite different decisions about tree cultivation. For example, in Shangten village, usually surplus labor households have small fruit farms. In Shibanqiao village, most surplus labor households planted pears. In Dade village, most households which has limted labor often choose to grow fir, because it can be manage easily. Clearly, based on households' internal labor availability, different tree planting decisions have been made.

6.2.2 Social Capital and Education Implication

It is often argued that growing tree take the long period. However, in Tageba the evidence is that if farmers' capital is adequate, they favor tree cultivation because tree growing require less investment than other crops, e.g. wet rice or vegetables. In fact, the information from Dade and Shibanqiao shows that the contrary is likely to be the case: access to capital will frequently enable farmers to adopt alternative higher yielding uses of their land. Availability of capital can be encouraged to invest in longer rotation of fir growing or industrial fruit tree. For example, In Dade, many farmers who have established good relationship with local government are encouraged to grow timber trees, because they can easily get the quota of logging from government.

In Tageba, social relations have been a vital factor that affects farmers' decision to engage tree cultivation. Access to social networks can help farmers to sell their fruits and

obtain information or technology support from the outside. For instance, one farmer in Dade village had two relatives in Taijiang city. Each year, the relatives introduced businessmen to him to buy his pears. So his fruits have been the first sell each year. The farmers who have good relationships with fruit purchasing middlemen or have relatives working in the Fruit Company in Taijiang are more interested in fruit tree growing. Some households make friends with bus drivers. These relations can help them sell produces too. One household in Dade village had established a restaurant among the highway, so he knew many bus divers. Each year, he did not only wholesale his pears easily, but also helped his relatives to sell fruits.

Actually, since the rural development process in Tageba has changed production from a collective to a market oriented economy, social and individual skills have become vital factors in farmers earning money. In practice, farmers in Tageba maintain and adjust their social relationships and skills depending upon what they need and what they want. Their shared kinship, residential, or social ties to each other on the tree cultivation. As a farmer in Dade village said, "now you should construct a good social relation. It is more important than the collective period."

Education, therefore, is expected to have a positive effect on agroforestry cultivation. One would expect this relationship to be nonlinear because as the level of education increases, so does the opportunity cost of their labor. Initially, as their education increases, individuals will be more likely to start up a forest farm. But, after certain levels of education have been reached, these same farmers will begin seeking off-farm employment where they can receive a salary equivalent to the value of their labor. When I did my household survey in Tageba, educational background of household members was investigated. It was found that 10% of them have never attended a school or are without any formal education. About 60% of them have only primary education (up to 6 years of formal education), but many have never finished primary school because their parents did not have enough money to support them. Only 15% of the farmers are middle school graduates.

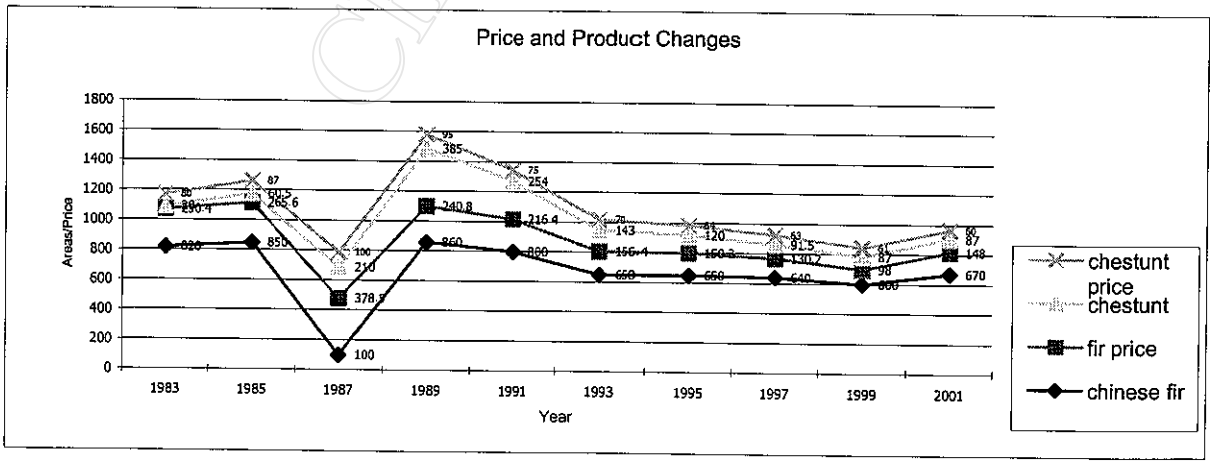
Frequently, people with high formal education engaged in fruit tree cultivation because they operate more modern technology of tree growing, i.e., using exotic species and graft technology. Low education often relates to low-income activities, i.e., fir planting or pig

raising. They are more likely to share their land with outsiders or other villagers. The better-educated farmers are more likely to use land by themselves. Usually, farmers who have completed high school education or have adequate skills adopt a market orientated approach and develop technologically complicated farming systems. At middle school education and above, however, the opportunity cost of using such individuals for labor increases dramatically, especially in the area of off-farm employment. For those who with a low level of education people, especially those who have only primary education, it is hard to find well-paid jobs.

6.2.3 Access to Market and Prices

Prices and access to market play an important role in shaping tree-cultivating decisions. Tree cultivation can be viewed as analogous to an investor's selection decision (Scherr, 1999). In Tageba, the primary motive for farmers in the planting of trees was to achieve household self-sufficiency. Nevertheless, with improving rural road infrastructures and growing commoditization of tree products, market demand has became the new key factor encouraging the tree growing in Tageba. The amount of income generated from the sale fruit and timber plays an important role in helping with household expenses and can lead to the planting of more trees. Under these conditions, farmers usually considered strengthening risk management through adopting the market demand. From the historical records and interviews in Tageba, I find that from the start of the market reform, farmers' actions and choices have usually been tied to the price of products as indicated in the figure below.

Figure 6-1. Interaction between Price and Tree Cultivation in Tageba



Source: Forest Production Statistics, Forest Bureau of Taijiang County, 2002. Unit: mu

Note: Fir price means per cube fir timber; chuestunt price means per hundred kilogram.

Figure 6-1 shows that price and general market trends have a significant influence on the economic incentives for farmers to improve their tree cultivation and land management. Farmers' were closely associating their production decisions to relative market prices. On the whole over the period 1985-1990 across Tageba, rice prices have declined sharply. For crops such as chestnuts, pears, and oranges, prices have risen only marginally, except for more significant increases in Tageba after the 1990s. The price changes during 1987-1999 correlated with converting chestnut and fir planting areas. In the mid-1980s, the chestnut industry was consistently associated with higher chestnut prices. Similarly, when fir timber's prices declined after 1987, the result was reduction in fir forest. Recently the price of timber and tea have rebounded, many farmers have become interested in fir growing fir. Timber prices are even more strongly correlated with fruit tree planting decisions. When the relative price volatility of timber has decreased, fruit tree planting has tended to increase. This analysis suggests that economic policy changes influence real environmental outcomes, depending on the magnitude of price changes. The farmers to respond to price changes depend on the degree of price risk associated with alternative crops. High price risk leads to low response.

Crop change was not only possible response to price, but also to the access to market. In real life, increased access to the market was an incentive for particular groups to engage in large-scale tree cultivation. Distance influences the attractiveness of adopting the fruit tree industry: proximity to roads or markets favor more frequently visits to town by the farmers, and they are, therefore, more likely to be introduced fruit tree cultivation. When market travel distance is short, farmers have an incentive to do more intensive, or more commercial farming. If the market is far away, farmers have to maintain traditional tree cultivation. In each of the five villages of Tageba, the type of strategies adopted depends on the distance of the road as access to the market. The highway no. 210 has been an important practical factor facilitating the fruit tree development. Agroforestry intensification has a direct correlation with road development. Dade, Shibanqiao, and Pingqiao villages, located along the highway where farmer sell their fruits to drivers directly or easily transport to market. Thus, farmers in this area often adopted commercial and industrial fruit cultivation. But, in Shangten and Xiaten

villages, due to difficulties in transportation, farmers have to sell fruit to middlemen at cheap prices, so farmers still keep the fir cultivation.

6.2.4 Information and Technology

Traditionally, farmers in Tageba depended more on self-sufficient systems and used mostly traditional knowledge. After market reform, the technology gap between traditional and modern scientific farming gradually widened. Since chestnut cultivation was introduced in 1984, they have increasingly used fertilizers and pesticides on their tree farm. Flexibility has tended to decline with this increased dependence on external resources and the standard and requirements associated with the new technologies and support system used by them. The specificity of technological packages and terms and conditions associated with market transactions as well as support received from public agencies are all manifestation of this. These restrict farmers' capacity to change their decisions and actions quickly.

Agroforestry practices need more technology and more dependence upon marketing information than timber tree cultivation. Dade and Shibanqiao were primary places for fruit tree introduction. The easy availability of fertilizers and seedlings in these areas close to the road had a positive impact on decisions about how to use land. Also in these areas, fruit tree cultivation was introduced via many technology training done by the government during 1984 to 1987. Thus, most farmers in these areas knew how to graft, use cover-plastic, use pesticide, prune branches, etc,. Fruit trees were widerly grown in these two villages. In contrast, The other three villages, lacked the advanced technology of fruit tree planting, so farmers were more likely to rent their land out and continue to plant traditional fir. A key role for the developer was as a catalyst of local innovation and information, and as a "broker" who could bring together local and externally derived knowledge in technology design, and document technological adaptation. He or she could bring in technical knowledge from outside Tageba.

In order to in-depth understand the factors that related to tree cultivation. I did the focus group interview in my fieldwork in Tageba. I discussed with large fruit, small fruit, timber and non-tree cultivation groups separately. Some the questions asked to them are the following. "What sort of land use does your family practice, such as, tree or non-tree plantation, and fruit or timber tree cultivation? What reasons or factors have impacted on your decision? Which

factor was important when you decided to grow trees?" However, respondents listed more than twenty items of associated the tree cultivation. But among them there was consistent agreement on 12 items. These items included a wide range of aspects of tree cultivation: finance, land, labor, technology, information, education, and price and so on. Each respondent, depending upon their own perception and situation, made different selections.

Table 6-2. Socio-economic Factors Influencing Farmers' Decision-making

Factors	Large Fruit Tree Cultivation Group (85)		SmallFruit Tree Cultivation Group (109)		Timber Tree Cultivation Group (125)		Non Tree Cultivation Group (55)	
	Selecting People	%	Selecting People	%	Selecting People	%	Selecting People	%
Finance	7	8%	13	11.9%	16	12.8%	3	5.45
Land	11	12.5%	10	9.1%	10	8%	4	7.2%
Labor force	9	10%	8	7.3%	18	14.4%	8	14.5%
Technology	8	9%	9	8.2%	16	12.8%	7	12.7%
Information	6	7%	11	10%	9	7%	8	14.5%
Education	4	4.7%	9	8.2%	10	8%	6	10.9%
Occupation	1	1%	6	5.5%	4	3.2%	3	5.4%
Social relation	3	3.5%	8	7.3%	6	4.8%	9	16.3%
Gov. service	4	4.7%	7	6.4%	20	16%	2	3.6%
Store	10	12%	4	3.6%				
Transportation	8	9%	9	8.2%	19	15.2%	3	5.4%
Price	14	16%	15	13.7%	23	18.4%	2	3.6%
Total	85	100%	109	100%	125	100%	55	100%

Source: Focus Group Interview in Tageba, 2002.

Note: 85 people as large fruit tree cultivation, 109 people as less fruit tree cultivation, 125 people as timber tree cultivation, and 55 people as non-tree cultivation joined the discussions.

Table 6-2 shows which factors were important for different groups. It also indicates the systematic differences in the mean socio-economic preferences of tree cultivation and non-tree cultivation households, timber tree cultivation and fruit tree cultivation households for items of specific concern. In short, different households based on their access to land, labor, market have adopted different strategies, not only according to their differing circumstances but also according to which aspects of their specific circumstances they thought were important. This follows Scherr's theory outlined in section 6.1. Generally, different strategies are related to different contexts and factors. In Tageba, the main contexts, external and internal that have influenced farmer's strategies are related to land, labor, social relations, education, technology, information, prices and so on (see **Figure 6-2**).

Figure 6-2. Contextualized Decision-making Models of Tree Cultivation

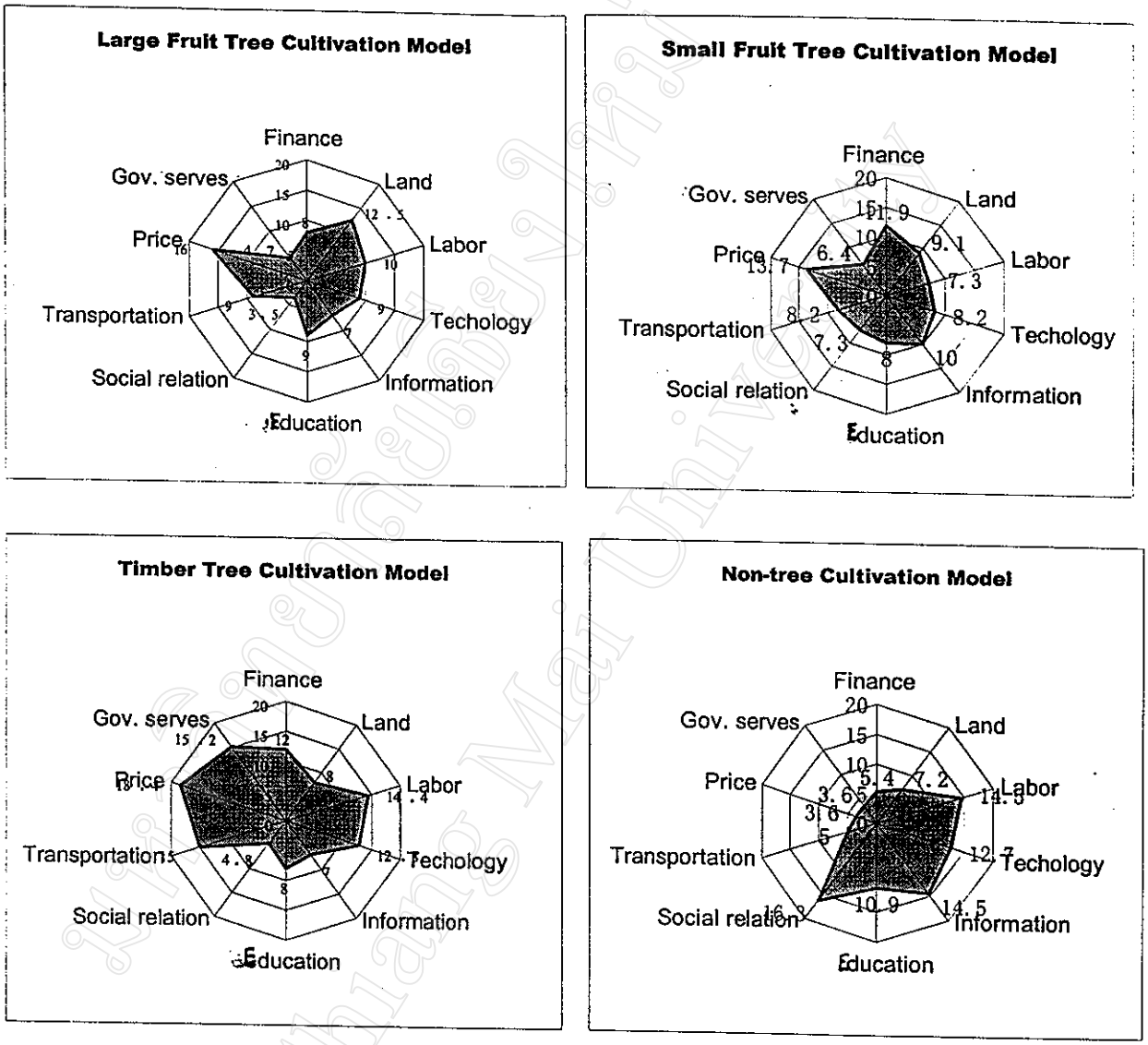


Figure 6-2 shows the systematic differences among the decision-making in different models of tree cultivation which are based on different factors. Most factors are generally items considered by tree cultivation households or non-tree cultivation households when they selected their strategies. For example, price and storage are more important for fruit tree cultivation households than other households. Timber prices and the governmental quota of timber affect farmers timber tree management more than any other parts of his farming activities. For non-tree cultivators, a good social relation and personal skills are more significant for their income generating than any other factors. Small fruit tree cultivation households had to consider multiple factors in their decision-making.

Additionally, this figure also indicates that nowadays the individual farm production depends more on the skills and capitals held in the household. Human capital is a key variable in the decision-making of members of both tree cultivation and non-tree farming operation. In fact, the environmental factors, such as the general social and economic conditions, local culture, existing infrastructure, distance to markets, and off-farm income have also affected many household's decision-making in tree cultivation. The traditional inheritance of skill is more important in tree cultivation. The farmers' livelihood of shifting from fir farming on their land into fruits farming or cutting chestnuts to grow pears is also determined by these factors. When the condition changes farmers will adjust their strategies of tree cultivation.

6.3 Needs and Local Meanings in Decision-making

Farmers determine growing trees in order to meet their livelihood needs. In Tageba, traditionally farmers' strategies of tree growing are planned to achieve subsistence needs and cash incomes. Farmers have diversified household livelihood needs which they are trying to achieve through tree growing, including secure provision of timber, firewood, fruit and other essential subsistence goods, cash for purchase of outside goods and services, savings (resources accumulated to meet future planned needs or emergencies), and social security (i.e., secure access to subsistence goods). While attempting to meet these needs, farmers also seek to reduce critical risk that could upset their survival. Lastly, to achieve these aims, farmers select livelihood strategies which use the resources of their access. An example of the way that farmers always concentrate on security first is the way that farmers grow fruit trees if they have no superior strategy for cash income; they grow fir only if they already have a successful strategy for earning cash income from off-farm labor or crops.

The decisions of tree cultivation reflect differing needs discourses and differing feelings of resources. It can be seen that fruit tree cultivation is carried out with economic discourse as well as rationalist feeling. Tree cultivators are deciding to invest in a new crop depending on whether the expected unrecoverable costs and benefits which apply to the investment are less than or greater than the expected returns from the investment in that crop over a particular period of time. As a farmer said, "I did not invest in an intangible future." Farmers use a

number of strategies to reduce the cost of establishing new tree farm system. For example they select steep land for tree growing. Also, when they felt that growing fruit trees was a "waste of time" they cut down the trees. When they were fully convinced that "fruit trees make money," fruit tree cultivation was put into operation. Lastly, their choices in species cultivated and their re-choices are made according to what practices can priority meet their felt needs, that is, what would cause the greatest profit for them, whatever that profit would be both cash and produces. Some plant fruit trees because for them profit means meeting their short-term cash income needs. For others, profit means greater amounts of income so they plant timber trees even though they are long-term investment.

Farmers have selected tree cultivation according to their own perceptions as well as understandings. In reality, the perceptions of farmer toward to market and forest resources have changed significantly. When I asked the villagers what benefits they had received since growing fruit trees, they immediately listed several items: 1) formerly land was owned in collective and people no right to cultivate it without reference to the collective. Now they can grow any crop on their allocated land following their own wishes. 2) Now they are able to get rice, timber, and fruit products easily at market or other village. 3) Fruits sell easily, the fruit now marketable than the timber. Growing fruit make much money. 4) Formerly they took produces to trade at far away places, but now many middlemen come to the village. 5) They have many investors coming to the village now. However, based on these perceptions, many farmers have adopted fruit tree growing since 1984. Choice between option investment on tree and children's education is an example of them following their own perception and understanding. Growing fruit tree needs higher inputs and technology within a short period than maintaining traditional fir growing. If they pay the option investment for growing fruit trees, they would have insufficient funds to pay for the education of their children or other investments. If he/she perceived children's education more important, he/she has to remain in fir growing.

Varying decisions can also be thought of in terms of different needs. Farmers growing tree believe that more intensive tree production is found on small farms. They often expect their capacity to undertake investments and insure against risks is always limited. Many

farmers in Shangten village needed fruit for household consumption. Most of farmers in Shibanqiao village needed products for sale. They each made decisions following these needs. A woman in Pingqiao village pointed out, "now I must regulate many things by myself because I need much money than before, such as buy clothing, oil, salt, television, etc.," In post-reform village life, there is a new meaning on trees. A farmer in Shangten village said, "forest now no longer just produce the timber. It seems a 'bank' of money deposited in the mountain, one pear tree can make 1,000 yuan per year." However, this economic discourse forces farmers to change their behavior as well as adopt new strategies. From this we can see that the meanings of the tree and needs discourse also had a significant impact on farmers' decision-making of forest management.

6.4 Conflicts, Attitude Change and Decision-making

After the market economy was introduced to in Tageba, Miao community's social structure changes including the dispersal of kin, contacts with outsiders, and prevalence of market values have ensued. Individual practices have become the mainstream activities in Miao society while traditional clan-based structure weakened. In reality, the dynamic market prices and state policies have forced farmers to consider them safety-first. They try to regulate and control all the resources, which they can possibly access in order to make their homes more self-reliant and their food more secure. However, the privatization and individualization has increased tension, dissatisfaction, misunderstanding, and conflict for all of resources. Resources conflicts have occurred more often both between communities and within families because each household meets their livelihood needs and controls their resources in different ways. Limited resources have also increased conflicts in the community. Some families have gained access to large legal land or logging quotas while for others there is not enough land for cultivation. This has lead to conflicts often occurring in the village. Some of them have fought over land use, tree logging, or water distribution in Tageba.

> Now people are concerned more with themselves than the community. They only think about their family. Brothers or neighbors who live close together often disputes or fights. Nobody organizes collective activity. For example, last year [1999] nobody organized a dragon play in the Miao Sister Festival (a farmer in Pingqiao village, 2002).

> Since introduced fruit trees in Tageba in the 1980s, the living standards have risen much faster than before. But many problems have also occurred in village, such as, unfair income distribution and the drop of Miao traditional customs. Now people become more and more individualistic. Everyone has become busied with his or her own affairs. They are often disputes or fights over trivial affairs. People seem not as much solidarity as before (a older in Dade village, 2002).

Industrial fruit-tree development in Tageba has heightened competition for resources, such as land and labor. As a result, this process of industry has also created resource conflicts and social problems. For instance, in Dade village the Wang and Pan clans have fought several times for the right to use a piece of land growing pear. Moreover, conflicts have often emerged between villages due to unclear land boundaries. Dede and Shipanqiao villages have also fought for a piece of fir forest in 1995. Even now the two villages are still not friendship, and their elders disallowed the younger generations marriages between the two villages. Indeed, while I worked in Tageba, many people complained that "people now often dispute with their neighbors." They are very aggravated if their neighbor's livestock makes incursions onto their farms. People only think and feel from their perspective and for their own benefit. The issue is not whose perceptions are "true" and whose are "false," but what is "to my benefit" and "against my benefit". Farmers almost always see their own property claims as legitimate.

The agroforestry developments that focus on cash crop replacements have destroyed Miao traditional knowledge. Miao farmers have lost their power to control and manage resources. In fact, they live increasingly in dependence upon the outside world and market system. It is unfortunate that in historically the Miao people have not enough experience and ideal about market. They just exchanged goods within village or family. So after market came in they neither power to bargain for better prices nor ability to integrate their farm much better. In fact, even when the Miao adopted a new way of life involving growing fruit trees for commercial purposes, and wage-based organization of labor, etc., they still faced many problems, they did not have before, i.e., dynamic market prices, limited land, and higher investment costs. Under these circumstances, the Miao farmers seem to have fewer alternatives than before. Some courses of action they could previously afford are now too expensive for them, and some courses of action which were previously risky within reasonable limits are now of great significance.

As I walked around the Tageba, I also noticed how the Miao house style has also changed. The market ideology has also helped Miao people to accept new values and non-traditional lifestyles. It has carried the Miao farmers' spiritual and social reality into a money centered life view. It has guided people's behavior into a pattern involving widespread contradiction and conflict. For instance, the traditional post-pile households have given way to the brick building. The symbol that post-pile represent household wealthy have gradually rejected. The traditional meanings that forests produced timber were changed to earn money. The timber-based production has lost the significance in livelihood production, and fruit tree cultivation schemes are being accepted. The business culture has gradually eliminated the traditional goods exchanging system in Tageba. As a farmers indicated, "nowadays, young generations most frequently want to do business. Only a few exchange labor with relatives." This new ideology reflects the changing social values of individuals in the Miao community.

The cash economy has resulted in greater mobility, particularly for the youth, and far less reliance on voluntary reciprocal labor in such formerly co-operative activities, like as house building, logging, planting and fruit harvesting. Previously, one depended on the voluntary help of fellow villagers who would work for a few days only sustained by good food, rice wine and the fellowship supplied by the host and the expectation they could, in turn, rely on the host's help and co-operation in the future. However, these attitudes changed under money-center society. Increasingly, people must hire labor to build a new house. As a farmer said in Dade village, " now to construct a new house, harvest fruit, and logging have to hired labor. People didn't like before. In the past, I just prepared some pork, rice wine, and cigarettes and called my relatives and friends for help. My payments were often refused. Now, you must pay more. " Traditionally, Miao have a penchant for friendship and help each other, but now some conflicts sought out among members of clan family or between clan family.

Many Miao families have found it very hard to steer their lives. They are forced to radically reconfigure their strategies for survival. For example some of Miao farmers now have to be wage labor on other people's farms or in urban. In fact, urban migration is not merely an adaptation to limited resources as it was in former times. Instead it has become something that they do because it seems there are no alternatives for their survival in the

mountains. For example, due to chestnut growing failed, a farmer in Dade village now become a gambler and took no interest in working in his fields. He rented his property, including his animals in order to get cash to buy food for his family. He even sold his house to his neighbor. In Pingquiao, another farmer described, "in order to make a good living, I have to rent my land and cut my regenerating fir forests to plant pears. Now ways of forest management and the ways of tree cultivation follow the whims of the market."

Framer's attitude toward farm management has dramatically changed since market reform. Many villagers have had to use chemical fertilizers in order to make enough money on the farm. "I need save money to buy fertilizers. Using it can make the pear trees give good quality and more fruit for me to harvest." However, depend upon different perceptions and expectations farmers see tree cultivation differently as self-interest. About the same land use practice, some think "waste of time", while others think "much better than fir cultivation." There are cultural conflicts within the family, between the family and the community, and in the wider context. Different family members have their own values and ways to resolve the conflicts that evolve out of different perceptions and experiences. The tree cultivation has different meanings within or between defendant families.

The leader of Shangten village, Mr. Yang Zhogo, is a case in point. In the past the people recognized his family as a hard working. Most years, this family cleared three plots of forest in order to make cash. The first plot was used for rice cultivation for family consumption; the second for selling and the third for growing corn for animals. This family also raised 4 cattle, 6 pigs, and 30-40 chickens. When the New Year ceremony started, they killed the largest pig they had to prepare food for guests. During the day of the New Year celebration, they would received their guests from different villages. But recently he has totally changed most of his corn farm to pear farm, so he can only raise two pigs. In the New Year he only invited a few close friends come because "my land used to grow fruit tree. So I am not corn to raise pig, and I also need to earn money from sell pork." After he stopped inviting relatives to celebrate in the New Year, the relatives always thought "now Mr. Yang family became rich, may be he don't need us for help a labor. Maybe he despises us because we are still poor."

Agroforestry expansion eventually results in the physical eviction of the actual cultivators. Large-scale plantation necessarily involves the concentration of land in the hands of a few individuals. Many households become poor or landless as a result. Agroforestry development does away with the old model of forest management. It often replaces it with more exploitative production. With the pattern of exploitation it was inevitable that conflicts would occurred between large scale and small-scale families. By the early 1990s relations between these two groups had worsened and clan conflicts began taking place regularly. With the coming of the fruit market place, large-scale producers usually dominated the fruit market. Because of economies of scale, their production cost per kg of fruit was the lowest of all production systems being used they often wholesale their fruit cheaply to businessmen.

Indeed, the production price of fruit from small-scale families was very high. In order to get their fruit sold to a middleman they would first have negotiates the price with a large-scale fruit producer. Their fruit gets sold at the same low prices as the fruit if the large-scale fruit producers and thus they often have very small profit margins. As a result, the small-scale farmers in Tageba have marginalized. They are left out of the mainstream of economic and social development. In fact, most of small-scale farmers adopted traditional fir cultivation. This has made traditional cultivators very confused and forced them into dilemmas. So traditional cultivators have had to cope with the technological changes through faster changing their land use pattern, extensive using high-yielding varieties of seedlings (HYVs), massive inputs of fertilizers and chemical pesticides. Thus, this is one reason that why farmers in Tageba grow tree--cut down tree–grow tree again—and cut down tree again.

6.5 Miao Farmers' Negotiation and Migration to Urban Areas

Agroforestry industrialization in Tageba can be defined as a process involving the economic development and expansion of modernization into Miao society. Industrial plantation has encroached on Miao territory. As a result, the process of agroforestry industry has led the Miao to abandon their traditional forest management and adopt outside techniques of fruit tree industry. Theoretically, the agroforestry industry provides employment for farmers, provides income and raises living standards. But it also creates social differentiation among

villages and between households. Some of the farmers have been able to get rich first due to their personal skills, social relationships, and excess labor. Other farmers became more and more poor. The agroforestry industry in Tageba seems a process that Miao society is displaced and restructured by modern economic culture. An elder in Dade village told us, "right now, people just want to make money. They go out village to study the technology of tree cultivation. Actually, there are many people cannot speak Miao language in our community, especially young people. Now only some older people carry on the traditional Miao practices. The younger generations will certainly be more and more Han instead." In practice, nowadays many young farmers in Tageba are no longer interested in singing Miao songs.

Farmers negotiated with market intervention through adjustments in more daily forms with occasional selections of new livelihood strategies and decision rationales. Safely has been the first consideration in farmers' rational activities. As I mentioned in Chapter IV, agroforestry development in Tageba leads to a series of land-use, labor distribution, and capital arrangement changes. According to their individual opinions about how best benefits from the land can be made. Some farmers have changed and some farmers have not changed their tree cultivation. In Tageba, many farmers see their future in permanent fruit orchards. A farmer in Dade village said, "[if I grew] fruit trees it would ensure regular income without undergoing backbreaking work and the need for more land to rotate fields." Based upon market demand, some farmers have cut down the invaluable pine to grow so-called "high value tree." In reality, farmers began cutting down renewable fir and chestnut trees, in many cases, trees which they themselves had planted since 1993, in order to expand new farms or open up the shade canopy. In the past decades, according to data from forest station in Taijiang County, farmers in Tageba have cut down as much as 590 mu of regenerating fir forests to plant new crops. Farmers in Dade and Shibanqiao villages also cut down about 95 mu of chestnut trees.

Moreover, to negotiate with the dynamic fruit market some farmers have had to grow vegetables (somewhere) under fruit trees. Cabbages and radishes are the most common vegetables to grow underneath pear trees. Cabbages and radishes are intercropped with fruit trees as a sideline to the fruit. Cultivating fruit trees requires many chemical pesticides and

fungicides which traditional farming did not. These chemical pesticides sometimes destroy the cabbage, radish, and potatoes under the trees. So some of the farmers were against growing pears in their vegetable garden. The returns from fruit were higher than those of cabbages, garlic and potatoes, but the higher material inputs and seed prices also implied a higher production risk.

Following economic shift from the countryside to the cities in China since 1986. The average rural-urban income gap has therefore widened. At the same time, households with inadequate access to land have had to seek non-farm employment in the slack agricultural season in order to earn enough income. To negotiation with these changes, many young people in Tageba, especially well-educated ones, have gone to the city for employment. Recently, seasonal migration of farmers to urban areas has steadily increased. In Tageba, there are 389 people who have experience of selling labor in urban areas. There are 172 people selling long-term labor in Guiyang or other cities. In practice, According to leader's narrative in Dade village, the farmers' general purpose in selling labor is that inadequacy of agricultural sector incomes which propels [them] into off-farm activities as a survival strategy. Others claim that this is not a passive accumulation to make up for lacks in resources for survival but a dynamic strategy of accumulating wealth for marriages.

In practice, out-migration is a process of farmers negotiating with modernization and commoditization. For them, the outside is an alluring as well as an overwhelming place. Many young people are unhappy with their present conditions and look forward to a new life that will include electricity, movies, television, motorbikes, mobile phones, and smart clothes. Common answers from young farmers when they are asked if they want to go to Guiyang are usually similar to the following examples: "living city must be wonderful, but we are afraid we will never get a chance to go there. It's too expensive to go." "After all, what would we go there for, if we can ever go?" Selling labor is a strategy that reflects farmers' responses to market intervention. Selling labor is the strategy of choice for survival of the poor; and it also is a decision of consolidation for rich households.

> Well, I would certainly like to go to Guiyang city, but at the moment there is no chance to do so. Many of my friends have found employment. I told them to look for a job for me. Perhaps they can help me. But I have to wait. After the next clove harvest is

> finished, I shall try my luck. This is a good chance to make a lot of money in quite a short time. After the harvest, I shall go to Guiyang for a while. I will enjoy life in this city; it is better, more exciting and more free. Maybe I can find a job so that I can stay there (a young man in Pingqiao village).

However, when people contact with outsiders they have received influences of different cultures. These, which have lead to more changes in their socio-cultural life, include their cultivation method and lifestyle. Han type lifestyle such clothing, language, music, and festivals have became more and more popular in Tageba. The materialism in life and economic activities has become the main characteristic of daily practice for the Miao people. A large number of men in Dade and Pingqiao villages are engaged in business both on a full-time or part-time basis, such as buy and sell timber. Some of them rented land out and again the main aim in this is material gain. So now, in Tageba, usually only old men cultivate the land. Even busy parts of the season, only a few young people came back home to assist their parents. The younger generation's agricultural knowledge and technology has rapidly decreased. An old man said, "when I die, my son maybe won't know how to sing Miao songs, or how to use plows, and so custom begins to sink into oblivion, even where it could still be used today."

Indeed, out-migration and fruit industry are increasing the mobility of Miao farmers in Tageba. Frequently, the out-migration has weakened family structures. According to household survey in Tageba, 20 per cent of the households comprised either one or two generations. In fact recently, the excess of labor forces in urban areas has led many young migrant workers to return to their villages after some time. This process of young people employing repetitive temporary migration is a result of socio-cultural change in Miao community. Young people dislike dressing in Miao traditional clothing and they hate to dirty their hands, it seems that this is because their experience in the urban environment has oriented them towards white-collar jobs in the factory, while making them reject all kinds of dirty labor. During my fieldwork in Tageba, some farmers were asked a number of questions, e.g., why they were not interest in farming activities. One general interpretation was, "even if you work hard, farming earns you less. Wage labor in the city is really hard work, but a better chance to make money."

> I started laboring in Guangdong on the 13th of August and returned home on the 17th of November. During that period, he worked forty-five days [twenty days slashing, twenty-five days hoeing], was ill for five days, and rested for nine [Sundays]. I earned 600 yuan. Only 200 yuan was left when he came back, the rest having been spent on the sick days: hard work doesn't matter, we usually do that at home. [the] damned shame was the malaria. Many people got sick. It was sad to be sick there: no money, no home, and no hope. I was lucky that I was laid up [for] only five days (a farmer in Dade village, 2002).

The migration has introduced new ideas of urban lifestyle to Tageba, particularly among young migrants who have worked and lived in the cities. They hold different values and have practices that are somewhat different from their parents. So conflicting values and practices between the young and old generations have often occurred. With the adoption of urban life the adolescent potential for independent activity increases. Generally they are exposed to a greater diversity of life-styles and role models. This may increase the distance between parents and adolescents and escalate the normal conflicts of that stage. As an old man in Dade village described, "[without farming] I have no guarantee when I sick or old. It is very danger that farmers give up the agriculture. If we have rice or timber on the fields, we still have some economic security at this time. But my son has always told me farming is hard work, and growing trees take long-term. I have no authority to control and require him planting tree. "

Nonetheless, many young villagers today feel that communication with their parents was difficult because theirs sources of cultural interpretation are somewhat different from their parents. However, many of young people completely disassociate from traditional Miao culture while a few of them maintain contacts with their families and kin through paying money remittance. I observed that when these young migrants were back in the community, only a few participated in rituals and other traditional activities.

> I no longer wanted to be a fruit tree/tree cultivator, as my parents were planning for me, but I had interested in being a driver, repairmen, or boss of restaurant. My parents, however, disapproved of my interest, and were constantly urging me to go to agricultural school in Taijiang to study some agricultural technology (a young boy in Dade village, 2002).

> One day my parent told me they would prepare a piece of forestry for my marriage. I was very confused with this, because growing trees is not easy. It takes much labor and land. In fact, I can make money by myself. I think my parents' views have halted their experiences in their era, when parents planted trees for children

> marriage. They thought this was a responsibility of parent for children. Their values and efforts can't keep up with today's social development. So I had to reject their decision (a young boy in Shangten village, 2002).

As the younger generations attempt to establish self-identity, adolescents often disagree with parents about ideas, beliefs, and values. Comments such as, "my parents are so old-fashioned, they can't understand me," "I never want to be like my parents, they are so boring" are familiar to those who work with adolescents. They are absorbed into the whirlwind of making money and forget to maintain their traditional Miao culture. In fact, after abandoning their customs and habits of forest management many adolescents are more likely to adapt modern culture, such as gambling, mah-jongg, etc. This life cycle transition can trigger ethnic identity conflict since it creates a more taunt connection between families and the roots of their traditions.

> More and more people have migrated to urban areas where they have forgotten Miao customary practices. The younger generations have been unwilling or afraid to be identified as Miao people, because other people usually exclude this identity.... [Miao people often regard as primitive mountain people].... They have lost confidence and imported Han culture and adopt it as their own (a elder in Dade village, 2002).

Parents increasingly feel that they cannot expect their son to do any thing in the way they wish. Instead, individual people have begun to explore the meaning of life in different ways depending upon different cultural contexts. The younger generations with their money demands, struggle to make ends meet. The old men struggle to meet their traditional needs as well as fulfill the needs of new farming practices. Money has become the major source of conflict. A cash economy has also meant more thefts both by fellow villagers as well as more professional gangs from the outside. Stealing of timber and fruit occur frequently. Previously, there were a few thefts. Several thefts happened on the remote mountains where the robber steal timber and escape with them into the forestry. Now, thefts of cattle, fish, fruit, and timber are becoming increasingly. The fruits and timbers are thieved even around house.

Summary

The market economy has changed Miao farmers' minds or revised their thinking of tree cultivation. Farmers who grow trees do so because of their own needs, aspirations, perceptions, and experiences. They decide for themselves what trees they want based on what trees are

better for their economic needs. Farmers' decision of tree planting is complex and interplay by internal and external factors. These include land, labor, technology, market, and also social resources. Farmers choose different strategies of tee cultivation depending upon different access to markets, resources, perceptions and attitudes toward the tree. This chapter discusses decisions of tree cultivation within large or less fruit tree cultivation, timber or non-tree cultivation strategies. It addresses how farmers choose these strategies. It identifies the factors influencing farmers' decisions-making. It also examines farmers' conceptions as well as meanings represented in the strategies adaptation.

Indeed, the market economy has created conflicts and introduced new values in Miao community. The Miao have re-conceptualized their forest depending on the new needs and aspiration. The traditional faming system has become compromised and questioned. The meanings of forests are constantly being reworked as people respond to social change. Farmers' perceptions, assumptions and interests in tree cultivation seem more like to make money. Industrial tree cultivation has changed Miao traditional subsistence attitudes and motives. The individualization forest management led to recourse use as well as cultural conflict in Miao society. They attempt to change their traditional tree cultivation to solve conflicts created when they are unable to negotiate relationship shifts. The Miao people have their own practices and needs discourse on tree cultivaiton. The integration of Miao areas into the market economy has brought many lifestyle changes to the Miao society. Industrialization of fruit trees cultivation has led to the changing nature and social structure in Tageba. The conflicts are implied by the market economy, "economic rationality," and the negotiations which farmers are increasingly forced to out-migration.