

# Role of Hilltribe Women in Coffee Cultivation and Extension Programme

Pongsak Angasith<sup>1</sup> and Patchanee Suwanwisolkiet<sup>2</sup>

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## ABSTRACT

The study aims to describe the role of hilltribe women in coffee cultivation, management activities and also decision making. The study was conducted in 1990 by selecting six hilltribe coffee growers in Chiang Mai, Chiang Rai, Mae Hong Son and Lampang provinces. They were Akha, Meo, Lisu, Yao, Lahu and Karen. Tribes Questionnaire survey was designed to collect the data from 117 respondents. It was found that women were mostly participated in weeding. Other minor activities were seedling cultivation, land preparation, fertilizer application, seed sowing, seedling transplanting, harvesting, processing, watering and pruning respectively. Chemical control was the least activity which they participated. Hilltribe women tend to have more chance in education and communication. Most of the women wished to attend the training course so the extension programme should be emphasized on the practical session and other techniques to be the guideline for the women to work properly on their farms.

**Key words :** role of women, coffee cultivation, extension.

## INTRODUCTION

Arabica coffee (*Coffea arabica*) has been highly promoted over a decade to be an opium poppy replacement crop for the hilltribes who have conducted mostly swidden agriculture in the highland of Northern Thailand. There are many organizations involved, e.g. TN-HDP, TG-HDP, Dept. of Public Welfare, Faculty of Agriculture, Chiang Mai University, Royal Project, Royal Forestry and other NGO's in encouraging the hilltribe farmers to grow coffee. Most of these organization have transferred knowledge and technology of coffee production by extension

officers by the method of:

- Visiting the coffee growing area to solve the problems and give recommendations
- Setting up a demonstration plot in the village.
- Organizing coffee management courses and training for farmers at coffee research station (HCRDC 1990).

The principal objectives of the extension programmes have never emphasized the gender aspect. Mostly men-farmers are trained under the courses for hilltribe coffee growers which have been regularly organized by various development

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1 Department of Agr. Extension, Faculty of Agriculture Chiang Mai University, Chang Mai 50002, Thailand.

2 Highland Coffee Research and Development Centre. Faculty of Agriculture, Chiang Mai University, Chang Mai 50002, Thailand.

projects. Training is hardly effective when it is given to anyone other than the person who actually does the job. The women seem to have an important role in the family and also farm tasks. Wongprasert (1989) reported that hilltribe women adjusted themselves more easily and accepted various cash crops according to their environment. At various distances from Chiang Mai and at different of the villages, these crops were introduced by the extension officers. They needed cautious cultivation techniques and off-villages equipment. Initial perceptions of women labors are transferred from the husband or male kin. The women then take all responsibility and work continuously afterward.

Working in the coffee farm, the women tend to be more heavily involved in certain activities such as weeding, seedling maintenance and harvesting, but they have to ask their husbands, extension official or father to solve the problems occurred in the farm. This study is an attempt to understand how women are involved in the coffee cultivation in order to encourage the participation in the training course and develop their farm management for the good arabica coffee production.

### **Purpose of the study and specific objectives**

Main purpose of this research is to study the role of hilltribe women in coffee cultivation and extension programme.

The objectives of the study are :

1. To study the role of hilltribe women in coffee cultivation
2. To investigate women's activities in coffee management (planting, harvesting, processing and marketing)
3. To examine factors affecting hilltribe women in decision making.

### **Research design and methodology**

#### **Location and population of the study**

The study was designed to get information

from the hilltribe families who were involved in coffee cultivation. A questionnaire survey was conducted in 1990 among the following tribes and locations :

- Hmong - Chang Khian Village, Amphoe Muang, Chiang Mai.
- Mae Sa Mai and Phanokkok Villages, Amphoe Mae Rim, Chiang Mai.
- Lisu - Doi Chang Village, Tambon Wawi, Amphoe Mae Suai, Chiang Rai.
- Akha - Doi Chang Village, Tambon Wawi, Amphoe Mae Suai, Chiang Rai.
- Karen - Mae Moeng Luang, Village Tambon Pong Sa, Amphoe Pai, Mae Hong Son.
- Yao - Mae Sarn, Amphoe Wang Nua, Lampang.
- Lahu - Huay Tad, Amphoe Mae Taeng, Chiang Mai

The total number of women farmers interviewed was 117.

**Duration of the study** April 1990 - August 1990

### **Instrument of the study**

Research instrument is the questionnaires which were formulated by the investigator to cover the following data :

- Basic information concerning the respondents.
- Information specifically related to the women's activities in the coffee farm.
- Information about the decision making of the women in coffee management (planting, other farm activities, marketing, problem solving and their attitude toward extension).

### **Data presentation and research findings**

The data was collected from 117 women farmers. Six tribes were included : Hmong 16.2%,

Yao 24.8%, Karen 22.2%, Lahu 18.8%, Lisu 12.0% and Akha 6.0%.

### **Basic information of the women respondents are as follows :**

Age of the respondent showed 3.4% were 10-19 years old, 41.0% were 20-29 years old, 28.2% were 30-39 years old, 17.9% were 40-49 years old, 8.6% 50-59 years old and only 1.0% were more than 60 years old.

Educational level of the women was quite low 73.5% were uneducated, while 10.3% were educated from grade 1-4 in the Thai educational system, only 6.8% of respondents had a very good chance to study higher than grade 4 and 9.4% of the respondents could read and write though they have never attended school.

The marital status of the women interviewed was 94.9% married, 1.7% of the married women had more than 10 children, 22.2% had 6-10 children, 65% had 2-5 children and 6% had no child. The rest 5.1% of the women were single and lived with the parents.

Labour management in coffee plantation was 66.7% from family labour and in case that they could not do the work in time (chemical spray, planting and harvesting) the external labour was hired (30.8%).

### **Data concerning the coffee cultivation**

Labour worked in the coffee plot was 90.6% from the family of 2-5 persons and only 9.4% from the big family of 6-10 persons.

Time spent that the women were involved in coffee cultivation from 3-5 years was 39.3%, 1-2 years was 33.3%, 6-10 years was 21.4%, and 7-10 years only 6.0%.

The sizes of the coffee plot area of the coffee plantation mostly from 1-4 rai were 57.2%, less than 1 rai 22.2%, more than 5-9 rai, 10-14 rai and more than 15 rai were 12.0%, 4.3% and 4.3%

respectively.

The intention to increase the number of their coffee trees from 100-500 trees was 67.5% and 32.5% will not increase mostly because of the price of coffee had rapidly dropped in the recent years.

The sources of coffee seed and seedlings were from the extension official 42.7% and 37.6% respectively, some farmers 20.5% collected the seed from their neighbours or relatives and some bought coffee seed and seedlings from their neighbours or extension official (8.5% and 6.83%, respectively).

Income from coffee production in 1987/88 and 1988/89 distributed from 1-5000 ฿ was 19.7% and 26.5%, more than 5,001-10,000 ฿ was 14.5 and 14.5%, more than 10,001-50,000 ฿ was 17.9% and 20.3%, farmers without income from coffee production was 47.9% and 38.5% because the trees were too young (1-2 years) to bear fruit.

### **Role of women in coffee cultivation**

Participation of the women in coffee cultivation in terms of their work were included weeding was 94.9%, coffee cultivation was 89.7%, land preparation was 86.3%, fertilizer application was 79.5%, seed germination was 72.6%, transplanting was 70.9%, harvesting was 65.0%, processing was 46.2%, watering was 33.3%, pruning was 32.5% and the least activity they participated was chemical control 18.8%.

### **Decision making**

When the farmer want to grow coffee, the person deciding to plant was husband and wife 54.7%, husband himself 23.9% housewife herself 10.3% and recommended by relatives and extension official was 7.7% and 3.4% respectively.

Attitude in coffee cultivation was reflected in the reasons of the farmers for growing coffee such as coffee had good marketing and price 45.3%, coffee is easy to plant 23.1%, coffee is a substitute

for opium poppy 21.1%, don't know what to plant 16.3%, and other reasons 14.5% such as recommended by the extension official, learnt from neighbour, coffee is a perennial tree and rapid investment return for only 3 years.

In cases the farmer want to increase the coffee plantation, the person deciding was husband and wife 65%, husband himself 16.2%, housewife herself 10.3% and others (e.g. extension official, parents, brother, husband's father and son) 8.5%.

Chemicals used for pest control and fertilization were chosen by husband himself 42.4%, recommended by extension official 25.2%, husband and wife 15.4%, others (son, father, brother, neighbour) 12.0% and only 5% by women.

Coffee processing the coffee production was sold by green bean 51.3%, (wet processing 47% and dry processing 4.3%) and fresh berry 48.7%.

### Marketing aspects

The person managing the coffee Production selling was husband and wife 29.9% husband him-

self 20.5%, housewife herself only 11.1% and others 5.13% (sold by the village committee, the father or the neighbours).

Marketing places that 32.5% farmers sold their products were market in town especially in Chiang Mai, 23.9% farmers sold coffee to the buyer from outside the village, 15.4% farmers sold coffee to the buyer in the village, very few farmers 3.4% sold coffee to the project and only 2.6% farmers asked the relatives or neighbours to help them sell their coffee.

39.3% farmers said that income from coffee production was not enough for their living but 26.5% said that they had enough income for family consumption and 21.4% said that the income was enough for buying chemicals for the coffee trees.

The opinion on coffee prices was different. 35.9% farmers said that coffee had a good price, 29.9% said that the coffee price they received was lower than the official set and 27.4% said that coffee price was too low and often fluctuated.

**Table 1** Participation of women in coffee management annually.

Activities \ Tribes	Hmong		Lahu		Karen		Akha		Lisu		Yao		Total	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%
	N = 19		N = 22		N = 26		N = 7		N = 14		N = 29		N=117	
1. Seed Sowing	14	73.7	15	68.2	23	88.5	6	85.7	3	21.4	24	82.8	85	72.6
2. Seedling Transplanting	10	52.6	16	72.7	20	76.9	7	100	4	28.6	26	89.7	83	70.9
3. Land preparation	16	84.2	18	81.8	19	73.1	7	100	13	92.9	28	96.6	101	86.3
4. Coffee cultivation	18	94.7	18	81.8	20	76.9	7	100	14	100	28	96.6	105	89.7
5. Pesticide use	5	26.3	0	0	2	7.7	4	57.1	1	7.1	10	34.5	22	18.8
6. Fertilization	18	94.7	19	86.4	15	57.7	6	85.7	7	50	28	96.6	93	79.5
7. Pruning	8	42.1	10	45.5	5	19.2	3	42.9	1	7.1	11	37.9	38	32.5
8. Watering	8	42.1	9	40.9	13	50	5	71.4	9	64.2	5	17.2	49	41.9
9. Weeding	19	100	21	95.5	24	92.3	6	85.7	13	92.9	28	96.6	111	94.9
10. Harvesting	6	31.6	19	86.4	15	57.1	13	57.7	4	57.1	19	65.5	76	65.0
11. Processing	6	31.6	13	59.1	4	15.4	4	57.1	12	85.7	15	51.7	54	46.2

**Table 2** Decision making in coffee cultivation.

Tribes Decision Making	Hmong		Lahu		Karen		Akha		Lisu		Yao		Total	
	No	%	No	%	No	%	No	%	No	%	No	%		
	N = 19		N = 22		N = 26		N = 7		N = 14		N = 29			
<b>A. Person who decides to grow coffee</b>														
1. House-wife	0	0	4	18.2	0	0	1	14.3	1	7.1	6	20.7	12	10.3
2. Recommended by extension official	0	0	1	4.5	2	7.7	0	0	0	0	1	3.4	4	3.4
3. Husband	7	36.8	11	50	4	15.4	1	14.3	4	28.6	1	3.4	28	23.9
4. Recommended by neighbour	0	0	0	0	0	0	0	0	0	0	0	0		
5. Husband and wife consensus	10	52.7	6	27.3	18	69.2	1	14.3	8	57.2	21	72.5	64	54.7
6. Others	2	10.5	0	0	2	7.7	4	57.1	1	7.1	0	0	9	7.7
<b>B. Reasons for coffee cultivation</b>														
1. Easy to plant	4	21.1	9	40.9	2	7.7	4	57.1	4	28.6	4	13.8	27	23.1
2. Good marketing/price	11	57.9	16	72.7	14	63.6	2	28.6	2	14.3	8	27.6	53	45.3
3. Don't know what to plant	4	21.1	2	9.1	4	15.4	1	14.3	2	14.3	6	20.7	19	16.2
4. Substitute for opium	3	15.8	0	0	0	0	1	14.3	9	64.3	12	41.4	25	21.4
5. Others	4	21.1	2	9.1	7	26.9	2	28.6	1	7.1	1	3.4	17	14.5
<b>C. Person who decides to increase coffee plantation area</b>														
1. House-wife	0	0	4	18.2	0	0	2	28.6	1	7.1	5	17.2	12	10.3
2. Husband	3	15.8	7	31.8	4	15.4	2	28.6	2	14.3	1	3.4	19	16.2
3. Husband and wife	13	68.4	10	45.5	18	69.2	2	28.6	10	71.4	23	79.3	76	65.0
4. Others	3	15.8	1	4.5	4	15.4	1	14.3	1	7.1	0	0	10	8.5
<b>D. Person who decides to use chemicals in cultivation</b>														
1. House-wife	0	0	2	9.1	1	3.2	0	0	1	7.1	2	6.9	6	5.1
2. Recommended by Extension official	0	0	8	36.4	8	30.8	2	28.6	5	35.7	10	34.5	33	28.2
3. Husband	12	63.2	14	63.6	13	50.0	3	42.9	4	28.6	10	34.5	56	47.9
4. Neighbour	0	0	3	13.6	1	3.8	0	0	0	0	1	3.4	5	4.3
5. Husband and wife	4	21.1	2	9.1	0	0	1	14.3	7	50.0	4	13.8	18	15.4
6. Others	3	15.8	0	0	12	46.1	1	14.3	0	0	2	6.9	18	15.4
<b>E. Coffee selling</b>														
1. House-wife	0	0	3	13.6	4	15.4	0	0	4	28.6	2	6.9	13	11.1
2. Husband	6	31.6	3	13.6	1	3.8	5	71.4	4	28.6	5	17.2	24	20.5
3. Husband and wife	2	10.5	5	22.7	10	38.5	0	0	5	35.7	13	44.8	35	29.9
4. Others	1	5.3	0	0	3	11.5	2	28.6	0	0	0	0	6	5.1
5. No coffee to sell	10	52.6	5	22.7	8	30.8	0	0	1	7.1	9	31.0	33	28.2

**Remarks** hilltribes provided more than 1 answers.

**Problems solving**

Concerning important problems in coffee cultivation, e.g. pests and diseases, lack of water, lack of capital to invest for fertilizer and other chemical and the difficulty in harvesting, 18.0% had marketing problems, 16% lack of knowledge in using chemicals, 9.3% lack of knowledge in cultivation and the rest 8.7% did not have enough labour to work in their coffee farm.

When the problems were discussed, 35.9% of the women would ask the husband to solve the problems, 34.2% would ask the extension official, 14.5% would ask the father, 11.1% would consult the neighbours and 9.4% tried to solve the problems by herself e.g. using chemical, mulching etc.

**Training and information**

Training of the women respondent, 89.7%

**Table 3** Coffee post harvest management.

Post Harvest Management	Tribes	Hmong	Lahu	Karen	Akha	Lisu	Yao	Total						
	No	%	No	%	No	%	No	%						
	N = 19		N = 22		N = 26		N = 14		N = 117					
A. Labour Management														
1. Home Labour	18	94.7	16	72.7	15	57.7	2	28.6	7	50.0	20	68.9	78	66.7
2. Hired Labour	1	5.3	6	27.3	11	43.3	5	71.4	7	50.0	9	31.0	39	33.3
B. Marketing place														
1. Buyer in the village	0	0	1	4.5	2	7.7	1	14.3	0	0	14	48.3	18	15.4
2. Market in town	8	42.1	12	54.5	1	3.8	4	57.1	13	92.9	0	0	38	32.5
3. Buyer from outside	0	0	8	36.4	15	57.7	0	0	0	0	5	17.2	28	23.9
4. Sell to project	1	5.3	0	0	2	7.7	0	0	0	0	1	3.4	4	3.4
5. Others (Specify)	1	5.3	0	0	0	0	2	28.6	0	0	0	0	3	2.6
6. No cofee to sell	9	47.4	5	22.7	6	23.1	1	14.3	1	7.1	10	34.5	32	27.4
C. Coffee processing														
1. Wet processing	7	36.8	12	54.5	2	7.7	5	71.4	12	85.7	17	58.	55	47.0
2. Dry processing	0	0	6	27.3	1	3.8	0	0	0	0	0	0	7	5.9
3. Fresh cherry	12	63.2	4	18.2	23	88.5	2	28.6	2	14.3	12	41.4	55	47.0
D. Type of product sold <sup>2</sup>														
1. Fresh Cherry <sup>2</sup>	7	36.8	0	0	15	57.7	0	0	2	14.3	12	41.4	36	30.8
2. Dry berry	0	0	1	4.5	0	0	0	0	0	0	1	3.4	2	1.7
3. Coffee with parchment <sup>3</sup>	0	0	0	0	0	0	2	28.6	0	0	0	0	2	1.7
4. Mixed grade of coffee bean	2	10.5	5	22.7	4	15.4	3	42.9	12	85.7	10	34.5	36	30.8
5. Graded coffee bean	4	21.1	11	50.0	2	7.7	1	14.3	0	0	2	6.9	20	17.1
6. No coffee to sell	8	42.1	5	22.7	7	26.9	2	28.6	1	7.1	9	31.0	32	27.4

**Remarks** <sup>1</sup>cheery = redfresh berry

<sup>2</sup>hilltribee practised more than 1 types

<sup>3</sup>parchment

had never been trained in any coffee extension course and only 10.3% had attended a project coffee training course. The reasons were that they couldn't understand Thai language, some women were too shy to attend the course and talk to the officer. Some of them had no time for the training because they had to take care of the house and children and, work in the field. Few women had a chance to be trained because they were of a younger age (15-29 years old), active, understood Thai language and were not afraid to contact with the officer. Nevertheless, most of the women, 84.2%, wished to be trained but some women still did not want to be trained, (15.4%).

The husbands had a better chance in training because of the better social status in the communi-

ties, e.g. communication, education and leadership. 63.3% of the husbands had been trained, 33.3% had never been trained.

51.3% of the husbands, who had been trained would transfer the knowledge to the wives, 10.3% did not improve or transfer any knowledge to the wives and 5.1% of the husbands made their own decisions in the coffee management.

Various sources of coffee information that the women got were 42.7% from an extension official, 20.3% from a neighbour, 17.5% from her husband, 7.0% from the newspaper and radio etc., 4.2% from the head of the village, the village committee, merchant or coffee buyer and their sons, but 8.4% did not receive any information.

**Table 4** Problems and problems solving in coffee cultivation.

Problems and problems solving	Tribes		Hmong		Lahu		Karen		Akha		Lisu		Yao		Total	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
	N = 19		N = 22		N = 26		N = 7		N = 14		N = 29		N = 117			
<b>A. Problems in coffee cultivation</b>																
1. Lacking of knowledge in cultivation	2	10.5	6	27.3	1	3.8	0	0	4	28.6	1	3.4	14	12.0		
2. Lack of knowledge in chemicals using	0	0	3	13.6	8	30.8	5	71.4	5	35.7	3	10.3	24	20.5		
3. Marketing problems	1	5.3	1	4.5	8	30.8	0	0	11	37.9	6	20.7	27	23.1		
4. Labour problems	1	5.3	5	22.7	2	7.7	0	0	3	21.4	2	6.9	13	11.1		
5. Others	17	89.5	8	36.4	19	73.1	3	42.9	5	35.7	20	68.9	72	61.5		
<b>B. Problems solving</b>																
1. By Women (Herself)	1	5.3	3	13.6	2	7.7	0	0	0	0	5	17.2	11	9.4		
2. Consult with neighbours	1	5.3	4	18.2	2	7.7	1	14.3	3	21.4	2	6.9	13	11.1		
3. Ask their husband	1	5.3	11	50	9	34.6	2	28.6	7	50.0	2	6.9	32	27.4		
4. Ask the extension official	0	0	6	27.3	13	50.0	1	14.3	12	85.7	18	62.1	50	42.7		
5. Others	0	-	2	9.1	4	15.4	3	42.9	0	0	2	6.9	11	9.4		

Remarks Hilltribes provided more than 1 answers

### Support needed

There were 37.2% women that needed fertilizers and pesticides in the form of credit or compliment, 23.8% needed marketing support in increasing the coffee price, information of market places and encouragement for the buyer to buy coffee in the area, 21.3% needed more recommendations in coffee management by the officer or a short training course, 13.4% needed capital support to buy chemicals or other farm investments and 4.3% needed seedlings or a permanent land holding.

The reasons for coffee cultivation in the highlands according to the women opinion were 23.4% said that coffee was easy to grow in highland conditions, 22.3% felt that the income gained is enough for home consumption, 20.3% said that

there was good support from the highland development projects, 15.7% thought that coffee could be the substitute crop for opium poppy. Other reasons were : (followed by the success of neighbours, the extension officer encouraged the farmers to grow by supporting seed, seedlings and other recommendations, or coffee is a fast bearing perennial crop and coffee trees can help to conserve the watershed, 9.2% said that the coffee product can be stored for a period of time during the time that they could not sell coffee at a desired price and 9.1% said that they had no problem in marketing because coffee is easy to sell.

### SUMMARY

Hilltribe women had less chance in education, this was clearly seen that only 17% had been

**Table 5** Coffee training for women.

<div>Training</div>	Tribes		Hmong		Lahu		Karen		Akha		Lisu		Yao		Total	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
	N = 19		N = 22		N = 26		N = 7		N = 14		N = 29		N = 117			
A. Used to be Trained																
1. Yes	0	0	1	4.5	1	3.8	2	3.8	3	21.4	5	17.2	12	10.3		
2. No	19	100	21	95.5	25	96.2	5	71.4	11	78.6	24	82.8	105	89.7		
B. Wish to be trained																
1. Yes	16	84.2	16	72.7	23	88.5	6	85.7	14	100	24	82.8	99	84.6		
2. No	3	15.8	6	27.3	3	11.5	1	14.3	0	0	5	17.2	18	15.4		
C. Husband used to be trained																
1. Yes	14	21.1	13	59.1	18	69.2	4	57.1	10	71	15	51.7	74	63.2		
2. No	5	26.3	9	40.9	8	30.8	3	42.9	4	56.0	14	48.3	43	36.8		
D. Husband's assistance to house wife (After the husband was trained)																
1. Husband transfers the knowledge	10	52.6	11	50	14	53.9	5	71.4	10	71	10	34.5	60	51.3		
2. Husband makes decisions	0	0	2	9.1	3	11.5	0	0	0	0	1	3.4	6	5.1		
3. No assistance	4	21.1	0	0	1	3.8	0	0	1	7.1	6	20.7	12	10.3		
4. By themselves	5	26.3	9	40.9	8	30.8	2	28.6	3	21.4	12	41.4	39	33.3		



educated. The former generation (30-60 years old) had never gone to school, but now the culture was changing and the girls could go to school but still to a limited level (grade 1-6).

Most of the married women tended to have less children (2-5 children), the family size was small and the labour on the farm was mostly from the couples and their children. This led to the size of coffee plantation at mostly 1-4 rai and there was the intention to increase the number of coffee trees to replace the missing trees, which died of diseases, pests, drought etc., but not to increase the area because they were uncertain of the future marketing situation.

The factors that influenced the hilltribe to grow coffee were good support from the extension official, e.g. seed, seedlings and recommendations. The coffee price and marketing were highly satis-

factory, but in the recent years coffee had faced marketing problems, e.g. low price, less buyer, highly fluctuated price. Therefore, the investments and agency concerned in the coffee farm were decreasing.

Women played an important role in the coffee farm, because they had participated in every step of activity from cultivation to harvesting. Decision-making was formerly from the husband only, but now the wife had contributed labour, ideas and other decisions in coffee cultivation management.

The social status of the hilltribe women was still inferior to the men. The communication or other support from outside of the communities would pass through the men group. As such the men, so the women always have less chance to contact the outside, even they always work and

**Table 6** Sources of information and supports needed in coffee cultivation.

<div>Sources of information</div>	Tribes		Hmong		Lahu		Karen		Akha		Lisu		Yao		Total	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
	N = 19		N = 22		N = 26		N = 7		N = 14		N = 29		N = 117			
A. Source of information																
1. From extension official	4	21.1	13	59.1	14	53.8	3	42.9	12	85.7	15	51.7	61	52.1		
2. From Husband	5	26.3	8	36.4	3	11.5	1	14.3	4	28.6	4	13.8	25	21.4		
3. From Neighbour	3	15.8	12	54.5	2	7.7	2	28.6	1	7.1	9	31.1	29	24.8		
4. From Newspaper radio, etc.	3	15.8	1	4.5	5	19.2	0	0	1	7.1	0	0	10	8.5		
5. Other sources	1	5.3	1	4.5	4	15.4	0	0	0	0	0	0	6	5.1		
6. Unknown	6	31.6	2	9.1	1	3.8	2	28.6	0	0	1	3.4	12	10.2		
B. Support needed																
1. Capital	4	21.1	7	31.8	5	19.2	0	0	5	35.7	1	3.5	22	18.8		
2. Knowledge	9	47.4	8	36.4	2	7.7	0	0	10	71.4	6	20.7	36	29.9		
3. Fertilizer and pesticides	6	31.6	11	50	14	53.8	4	57.1	11	78.6	15	51.7	61	52.1		
4. Marketing support	7	36.8	7	31.8	5	19.2	3	42.9	9	52.9	8	27.6	39	33.3		
5. Other	1	5.3	2	9.1	2	7.7	0	0	0	0	2	6.9	7	5.9		

**Remarks** Hilltribes provided more than 1 answers

know the problems occurring in the field. The women should be more educated or trained, in order to develop their own abilities to work properly in the coffee plot.

### Recommendations

1. Institutions and organizations involved in coffee research and development should strengthen the training programmes for the women, so as to develop their knowledge and skills of working in the coffee farm.

2. Marketing problems (low price, less competition from the buyer etc.) should be taken care of in order to convince the farmers to invest their management for efficient coffee production.

3. Most of the women had never been trained in coffee production. They wished to attend the training course, so as to get more knowledge to have better understanding of coffee management, but there were some barriers in communication, e.g. language, dialect, word use, so the training should emphasise practical sessions, which will lead them to gain more experiences from the real situation.

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