

## EMPOWERING WOMEN FARMERS THROUGH MULTICHANNEL LEARNING: AN APPLICATION OF NEED ASSESSMENT TECHNIQUE

Fawzia Sulaiman

*Center for Agro Socio-Economic Research, Jalan Achmad Yani No. 70, Bogor 16161, West Java, Indonesia*

### ABSTRACT

The suitability and effectiveness of material, method, and media used in nonformal education provided by government and nongovernment institutions (including agricultural extension) has been questioned in recent years. This is especially true for nonformal education catering for poor women farmers. Even though the significant roles and contribution of women farmers in farming and family economic survival in Indonesia have been widely known, their nonformal education needs are rarely acknowledged. Several socio-cultural norms and values hinder women farmers' participation in extension activities. The perception that agricultural extension activities fall under public domain has resulted that these activities are under male control (usually head of household). Without special intervention and accurate need assessment for nonformal education, the gap between women farmers and their male counterparts will be wider. This study was designed to identify nonformal educational needs of poor women farmers in Sakra Subdistrict, East Lombok, West Nusa Tenggara. The primary data and information were solicited through the Participatory Rural Appraisal (PRA) method using focus group interviews and gender analysis techniques. The results indicated that women farmers in the study area could not afford to participate in learning activities, unless the learning program offer a direct benefit to generate income. However, in general they put a high expectation in their children's education and learning opportunity that would lead them to earn a better income. Due to their very limited educational background, demonstration and learning by doing methods were perceived to be the most effective extension methods. Furthermore, radio and television were not effective educational channels, since there were only a very small number of respondents who owned radio and TV sets. In the efforts to empower women farmers, field extension workers require training on socio-economics, including gender analysis, and need assessment methodology to better perform their tasks in the field.

[Keywords: woman; farmers; extension activities; West Nusa Tenggara]

### INTRODUCTION

The significant contribution of women in agriculture has been widely published (Saito and Spurling, 1992;

Syaifudian, 1994; Saenong and Ginting, 1995; Saliem, 1995; Baharsjah, 1997). However, their access to the resources such as land, credit, and governmental development services (education and agricultural extension) is less compared with those of men. This unjust distribution of resources is particularly acute among poor illiterate women farmers who are often referred to "the poorest of the poor". In 1996, the percentage of the illiterate working women in rural areas was double (18.4% vs. 9.1%) compared with those of men (Central Bureau of Statistics, 1997). Furthermore in the same year, the percentages of graduated women from all education levels were also lower compared with those of men.

Education is considered to be one way to empower women in improving their livelihood and quality of life in general. Nonformal education is likely to be more available to poor illiterate women with limited education in remote farming communities. Thus, nonformal education is more likely to be a mean for strengthening women farmers' knowledge, skills, and attitudes to cope their multifaceted tasks, on one hand, and their inferior conditions, on the other.

The Beijing Platform of Action and the outcomes of similar world for a preceding it have focused the world's attention on women's actual contribution to their nation development. Women's multiple responsibilities inside and outside their homes, in paid and unpaid works have been put in the center of international dialogues. Recent analysis of curricula and materials reveals that despite visible guidelines and directions, the status-quo reigns supreme. Even though women's participation and contribution in farming and in income generating activities for their families' survival are significant, the knowledge and skills offered to women often do not help to improve their existing tasks. Farming skills and related technology remain in men's domain.

As significant contributors to their country's economy, women's capacity in performing their work need to be strengthened and revolutionized. Current

and available technology needs to be made available to them. Furthermore, the information and technology have to be presented in ways that are suitable to their conditions and specific needs, and it must be attractive to the women. In this respect, the Assessment Institute for Agricultural Technology (AIAT) which provides local specific agricultural technologies at the provincial level is in a strategic position to achieve this aim. For this reason, researchers and extension personnels at the AIAT should be gender sensitive in order to develop technology which is free from gender biases. A need assessment conducted in Montong Tangi Village, Sakra Subdistrict, East Lombok, West Nusa Tenggara, was a mean to provide accurate information as a basic for program planning of nonformal education activities specifically for women farmers. This need assessment should be followed by efforts to strengthen the grass-root organizations dealing with nonformal education, and to increase the knowledge, skills, and attitudes of field extension personnel in mastering different media available to them in a creative way to carry out nonformal education for women farmers.

Specifically, the purposes of this study are: (1) to acquire sociological information and data which are needed for program planning of nonformal education for women farmers in the study area, (2) to obtain information concerning with the accessibility of women farmers to several learning channels, (3) to identify appropriate learning media for women farmers, (4) to identify roles of women farmers in farming, domestic, and productive activities, and (5) to solicit needs, aspirations, and attitudes of women farmers toward learning.

## METHODOLOGY

The respondents of this study were purposively selected among women members of *Proyek Pembinaan Peningkatan Pendapatan Petani dan Nelayan Kecil*/Income Generating for Small Farmers and Fishers Project (P4K) groups in Montong Tangi Village, East Lombok, West Nusa Tenggara. Besides obtaining secondary data pertinent to the objectives of the study, the primary information and data were solicited through the Participatory Rural Appraisal (PRA) method using focus group interviews suggested by Krueger (1988) and gender analysis technique (Sigman *et al.*, 1989). Specific information being solicited during conducting the study was:

1. Profile and pattern of women farmers' participation in nonformal learning activities (through several

learning methods and media, especially through agricultural extension, community education programs such as *Kejar Paket-A* and *Kejar Paket-B*, and radio/TV programs);

2. Pattern and level of interest in listening to the radio or watching TV programs as learning media for women farmers;
3. Socio-cultural and economic barriers against women farmers' opportunity and participation in learning activities;
4. Strength, opportunity, and constraint of women farmers to participate in nonformal learning activities, including existing local strength that would accommodate learning opportunity and participation for women farmers;
5. Women farmers' roles and responsibilities in farming, domestic/reproductive activities, and in income generating activities;
6. Learning needs of women farmers (information and technologies) to increase their productivities in farming and in income generating activities;
7. Effective and suitable learning methods and media for poor women farmers;
8. Local/outside institutions/organizations including existing local nongovernment organizations (NGOs) which would accommodate/support their learning opportunity;
9. Women farmers' aspiration and expectation towards learning;
10. Women farmers' aspiration and expectation in their lives.

A focus group interview was conducted to six P4K women groups which were randomly selected among three loan repayment categories (Table 1). These six P4K women groups were Karang Duntol and Serba Guna groups represented good performance, Suka Damai and Pade Pacu groups which were classified as medium performance, and Suka Maju and Masa Depan groups represented unsatisfactory performance. Each P4K women group had 10 members. Information on cropping pattern, income generating activities, division of farming and domestic tasks among family members was solicited through gender analysis. Secondary data are obtained from the East Lombok Statistic Office and the East Lombok Regional Development Agency (1997) and the West Nusa Tenggara Statistic Office (1997).

## RESULTS AND DISCUSSION

Even though this need assessment was only conducted in Montong Tangi Village, results of the



Table 1. Background of the selected woman members of Income Generating for Small Farmers and Fisher Project /P4K group in Montong Tangi Village, Sakra Subdistrict, West Nusa Tenggara.

Name of groups	Formal/nonformal education	Productive activities	Remarks
Karang Duntol	Mixture of PS <sup>1</sup> drop-outs and KP-A <sup>2</sup> drop-outs	Rice, tobacco, and shallot farming Petty trading Farm labourer	Some women had access to very small land
Serba Guna	No schooling: 3 PS <sup>1</sup> drop-out: 6 KP-A <sup>2</sup> graduate: 1	Petty trading Pottery making Farm labourer	All women were landless
Suka Damai	PS <sup>1</sup> graduate: 5 PS <sup>1</sup> drop-outs: 5	Rice, tobacco, and shallot farming Petty trading (rice, shallot, tobacco, pottery) Farm labourer	Three women had access to very small land
Pade Pacu	No schooling: 4 PS <sup>1</sup> graduate: 5	Rice, tobacco, and shallot farming	Eight women had access to very small land
SHS <sup>3</sup> graduate: 1	Petty trading (rice,	vegetables, pottery) Farm labourer	
Suka Maju	Mixture of PS <sup>1</sup> drop-outs and KP-A <sup>2</sup> drop-outs	Rice, tobacco, and shallot farming Petty trading Farm labourer	Some women had access to very small land
Masa Depan	PS <sup>1</sup> graduate and drop-out: 9 JHS <sup>4</sup> graduate: 1	Petty trading (rice, shallot, chilli, vegetables) Farm labourer	All women were landless

<sup>1</sup>PS=Primary School; <sup>2</sup>KP-A=Kejar Paket A; <sup>3</sup>SHS=Senior High School; <sup>4</sup>JHS=Junior High School

study can be applied in other areas of Lombok Island that have similar features such as agro-ecological zone, cropping pattern, socio-economic conditions, and skills needed for income generating activities.

over-populated. More detailed data on demographics, land tenure, and sociological condition of the study area are presented in Appendixes 1 and 2.

### Geographical Condition of the Study Area

The annual rainfall and number of rainy days in 1997 was 769 mm and 82 days, respectively. Comparing the size of Montong Tangi Village (4.16 km<sup>2</sup>) with population of 5,555, this village is considered to be

### Profile of Social Economics and Agricultural Activities

Reproductive (domestic) activities of respondents (Table 2) show that women carried out all routine reproductive tasks, except looking for fuel wood. Furthermore, while women were responsible to fulfil

Table 2. Profile of reproductive/domestic activities in Montong Tangi Village, Sakra Subdistrict, West Nusa Tenggara.

Activities	Degree of participation		Remark
	Female	Male	
Cooking	High	Low	Husband would help his wife if she is sick
Taking care of children	High	Low	Occasionally husband helps his wife
House cleaning	High	Low	Husband helps his wife very rarely
Laundry work	High	Low	Mostly done by females
Water collection	High	Low	Mostly done by females
Looking for fuel wood	Low	High	Mostly done by males
House repairment	Low	High	Mostly done by males

routine time consuming domestic tasks, they were also involved in off farm income generating activities (Table 3) and several farming activities on their farm or as farm labour (Appendix 3). Husbands will help their wives to carry out household chores only when their wives are in unfavourable situation to fulfil the activities. The period of raising small children is an additional limiting factor for women to participate in learning program. Their very limited free time should be considered in designing learning activities for women farmers, and the most favourable time to participate in learning program need to be identified.

Even though educational background of the P4K group members were mostly primary school drop-outs (Table 1), many of them were not functional literate. It implies that learning methodology and materials for them should be designed for nonfunctional literate learners such as demonstration and learning by doing methods.

The opportunity of income earning from off-farm and on farm activities was limited. Not all of the women had the skills and/or capital to engage in non-farm activities. Since source of income from off-farm activities is available only for a short period of time per season (Table 3), it is clear that poor women farmers in Montong Tangi are badly in need for training and capital enable them to engage in non-farm income generating activities.

The role of the Provincial/District Industrial Office and/or -NGOs in developing and implementing nonformal training to increase women farmers' knowledge and skills in common sources of income

is important. Training program intended for improving the design and technique of pottery making and weaving will greatly increase the price of those products mentioned above. The training on pottery for rural women carried out by an NGO (Foster Parent Plan) about five years ago was perceived to be effective and useful.

Cropping intensity was quite high with a cropping index of 300%, starting with shallot in the first planting season and followed by rice and tobacco in the second and third planting seasons, respectively. Results of gender analysis (Appendix 3) indicated that men controlled almost all cash crop farm activities, except in second weeding, harvesting and drying produce (for shallot farming), and in tying produce and cutting leaves (for tobacco farming) which were controlled by women. On the other hand, women were more active and controlled planting, weeding, and drying produce in rice farming which was mostly for their own household staple food supply. These findings strengthen the premise that men controlled cash crop farming, and women are more active in staple crop farming as reported by Saenong and Ginting (1995).

Besides providing information on task division between men and women, results of gender analysis can be used to identify specific learning needs for specific clientele groups in each activity. It implies that gender analysis should be one of the important required activity prior to developing accurate development program, including extension for women farmers.

Table 3. Productive activity profile, time allocation, and income of women farmers in Montong Tangi Village, Sakra Subdistrict, West Nusa Tenggara.

Productive activities	Working hour per day	Income (Rp)	Remark
Petty trading	4-6	2,000-3,000/day	-
Pottery making	7	5,000/week	-
Making cookies	1	2,000/day	-
Weaving	5	5,000/2 weeks	-
Embroidery	3	5,000/weeks	-
Sewing	5	15,000/weeks	-
Farm labourer			
Weeding	8	5,000/day <sup>1</sup>	6 days/season
Planting	8	5,000/day <sup>1</sup>	4 days/season
Water collection	8	5,000/day <sup>1</sup>	7 days/season
Tobacco sorting and tying	8	5,000/day <sup>1</sup>	30 days/season
Tobacco harvesting	8	5,000/day <sup>1</sup>	21 days/season
Rice harvesting and threshing	8	50 kg of husked rice/season	7 days/season

<sup>1</sup>Plus meal, snack, and drink (twice)



The percentage of people who worked in agricultural sector was higher in Montong Tangi (46.1%) compared with those in Sakra Subdistrict (31.9%). However, 72.8% of the population who worked in agriculture in Montong Tangi were farm labourers and 24.2% of farmers were land owners. This land tenure structure indicates a very high degree of inequity in the distribution of the main important agricultural assets. The land tenure structure in Sakra showed a better picture, where 49.5% of the farmers were land owners (Appendix 1).

Despite the highest percentage of farmers in Montong Tangi and Sakra were farm labourers who need additional income from nonagricultural sectors, the percentage of population who worked in non-agricultural sectors in Montong Tangi and Sakra were only 7.3% and 6.5%, respectively. As nonagricultural occupation in rural areas often used as development progress indicator (Awang, 1994), it can be assumed that the development in Montong Tangi and Sakra is quite slow.

One basic assumption in this study was that the radio and television would be the effective channels for delivering learning materials for women farmers. However, the results show that the household ownership of those two communication media in the study area was very low (Appendix 1), especially among poor households. It implies that radio and television are not appropriate to deliver learning materials for women farmers.

Besides using the number of household that falls into particular well-being criteria, indicators that can be used to assess the well-being condition of the community, among others, are the household's source of fuel and housing quality (Appendix 2). Based on these two indicators, it was found that the population in Montong Tangi had better well-being compared with that in Sakra. This situation can be explained partly by the fact that there were more people working in nonagricultural sectors in Montong Tangi than those in Sakra (Appendix 1). Furthermore, two of seven markets in Sakra (Appendix 2, Sakra consists of 15 villages) are located in Montong Tangi, showing that the population of Montong Tangi were economically more active.

### Profile and Pattern of Participation in Nonformal Learning Activities

The participation level of respondents in learning program of *Kejar Paket-A* varies. Some members of the Pade Pacu group attended *Kejar Paket-A Spesial*

three times a week for two weeks duration, whereas some members of Suka Damai group attended *Kejar Paket-A Reguler* three times a week for a period of seven months. Some members of Serba Guna group attended *Kejar Paket-A* program around five years ago resulted one woman graduated and the others dropped-out. Those who were *Kejar Paket-A* drop-outs remain illiterate. Some women of Karang Duntol and Suka Maju groups had an opportunity to participate in *Kejar Paket A* program around seven years ago. However, the program was carried out only for a very short time due to too many woman farmers dropped-out, the local tutors felt being treated unfairly by the District Educational Project, and some tutors migrated to Malaysia.

The other learning opportunities for women farmers were through agricultural extension organization, Foster Parent Plan, *Balai Latihan Keterampilan* (BLK)/Skill Training Institute (Ministry of Industry and Trade), *Pendidikan Kesejahteraan Keluarga* (PKK)/Family Welfare Program, *Kelompok Pembinaan Kesehatan Ibu dan Anak* (KPKIA)/Mother and Children Health Program, and religious gathering. Even though there was no cultural restriction for women to join the activities which were also attended by men, only men who were invited to participate in agricultural extension activities. Women would attend extension activities only for substitution whenever their husbands could not come to the extension program. Similar situation was reported by Sulaiman (1998) in two districts of South Sulawesi and North Sulawesi, and in Central Maluku District, Maluku Province.

According to socio-cultural norms, participation in an extension program is considered to be in public domain which is under men's responsibility. If women farmers are expected to attend extension activities, their time and financial constraints should be considered.

### Pattern and Level of Interest in Listening to the Radio or Watching TV Programs

The level of radio and TV set ownership among members of P4K groups was very low. In an average, within a group of 10 people, only one or two people who owned radio. The level of TV set ownership (all black and white TV sets) was even much lower than the radio ownership. However, the TV set owner accommodated her neighbours to watch TV in her house, where the TV owner controlled the choice of the TV channel.

Regarding the preference of radio/TV program, most women preferred entertainment program. However, the

level of interest to listen/watch news was higher among older women compared with that of younger ones. The most appropriate time to listen to the radio was after 9:00 in the morning and between 15:00-16:00 in the afternoon.

### **Socio-Cultural and Economic Barriers Against Women Farmers' Opportunities and Participation in Learning Activities**

Generally speaking, there was no cultural barrier for women farmers to participate in learning program. All women interviewed indicated that their husbands would support them to participate in learning program. The socio-economic barriers that hinder women farmers to participate in learning program were as follows:

1. Low level of education which made them to become slow learners. If this condition is not anticipated by an appropriate learning approach, it will discourage them to continue learning;
2. Low economic status which limits their possibility to participate in learning program. All interviewed women farmers during the focus group interviews indicated that they could not pay any expenses, even for a minimal amount such as for the transportation fee to the rural extension center (a distance of 6 km needed a fee of Rp 2,000);
- 3) Time consuming on domestic activities (taking care of their family and carrying out household chores) and productive activities (farming and income generating activities for family survival) which limits their time to participate in learning program. The time constraint should be considered in designing learning program for them.

### **Strength, Opportunity, and Constraint of Women Farmers to Participate in Learning Program**

In general, the respondents had positive attitudes towards learning, especially learning skills for increasing their productivity and income. In this respect, they could not afford to allocate their time and resources to learn something for the sake of learning. Therefore, literacy program such *Kejar Paket-A* and *Kejar Paket-B* should be emphasized in knowledge and skills required for increasing their income. So far, the agricultural extension organization has not adequately addressed the need of literacy program prior to conducting its extension activities. It implies that for providing nonformal agricultural

education for women farmers with very limited educational level, agricultural extension organization need to collaborate with the Agency for Education and Culture and other institutions dealing with nonformal education.

The other supporting factor for the success of a learning program in Montong Tangi is the eagerness of local educated young people to facilitate learning process for the rural community. No cultural restriction for women to attend a learning program such as agricultural extension activities together with men would simplify the learning arrangement.

The opportunity for women farmers to participate in learning programs is very limited. Besides they could not afford to support themselves to participate in learning program, free learning programs were rarely offered. The field extension workers of P4K project had not conducted extension program dealing with agriculture and or skill learning, but they emphasized in administrative matters such as preparation of income generating activity proposal to fulfil administrative requirement of the credit scheme. The East Lombok Industrial Office and Foster Parent Plan used to conduct training in pottery making, but this learning opportunities are very rare. The habit of not respecting other people's belonging outside their homestead such as fruit trees planted on dry land areas and chicken which was running around outside their home was considered as a constraint which limits the area of their agricultural learning.

### **Learning Needs**

Women farmers in Montong Tangi perceived that they needed learning programs in all aspects of farming for main commodities grown in their area such as shallot, rice, and tobacco. They also considered that pottery training was very useful in increasing the quality of their pottery products. As many women farmers were also engaged in petty trading, many of them were very interesting in learning how to make cookies and snacks for sale. Despite very limited financial resources, they were eager to provide cooking stuffs needed for cooking lessons.

### **The Effective Learning Methods and Media**

Due to very limited educational level, women farmers preferred learning by doing and demonstration methods. Printed learning materials do not seem effective as many of them are not functional literates. Group visit by extension workers is still needed,



especially at the very low level of radio/TV ownership. For this reason, assisting agricultural field extension workers with relevant learning materials, and visual aid facilities such as slide projector, camera, and over-head projector, would enhance the learning effectiveness.

### **Institutions/Organizations Being Perceived to Support Learning Opportunity**

As the women farmers could not afford to participate in learning programs offered by commercial private organizations, they always expected government institutions to provide learning programs for them. Unfortunately, free learning programs which were suitable to women farmers' needs were very limited. Members of *Serba Guna*, *Karang Duntol*, and *Suka Maju* women groups indicated that the last *Kejar Paket-A* being offered was around 6 years ago which was carried out for a short period of time. In this respect, the pottery learning program which was offered by the District Industry Office and the Foster Parent Plan was considered to be suitable for their immediate need. Trainings specifically designed for agricultural extension workers and other field personnel of nonagricultural sectors, together with local educated people, would increase the opportunity of women farmers to participate in learning programs.

### **Women Farmers' Attitudes, Aspirations, and Expectations Towards Learning**

In general, women farmers and their families had very positive attitudes towards learning. They also had high expectations for their children's education and learning opportunity that would lead to a capability for earning an appropriate living. Their aspiration and expectation for their lives were the capability of providing adequate food for their families, and opportunities to participate in learning programs that would increase their income.

### **Women Farmers' Roles and Responsibilities in Farming, Domestic and Productive Activities**

Results of focal group interviews and gender analysis (Tables 2, 3, and 4) show the significant roles of women farmers in farming and other productive activities, besides their main responsibility in domestic activities for their family survival.

## **CONCLUSION AND SUGGESTIONS**

Due to the financial and time constraints, poor women farmers can not afford to participate in learning activities that do not offer a direct benefit to generate income. For this reason, learning program for poor women farmers should be aimed at increasing their knowledge, skills, and attitudes to generate income. Results of this need assessment study indicated that the majority of P4K women members were not functional literate. Group visit, learning by doing, and demonstration would be the suitable methods for catering learning program.

Perception that agricultural extension activities fall under public domain is an impediment factor for women farmers' access to agricultural extension. Thus, extension personnels, especially at the field level need trainings on gender issues and gender analysis that would enhance their gender sensitivity and capability to provide learning programs which are suitable to the specific needs of each member of the family. They are also expected to be sensitive towards socio-economic and cultural barriers against women farmers' opportunity and participation in learning activities. Furthermore, existing local strength that would enhance and facilitate learning opportunity and participation should be identified. For this reason, existing local institutions (institutional analysis) which could influence learning opportunity and participation of women farmers are needed to be analyzed.

To increase the field personnel effectiveness, existing local field personnel (agricultural extension workers and other related sector personnels) could be equipped with multichannel learning materials relevant to the local needs, and visual aid facilities. Furthermore, a collaboration with institutions dealing with nonformal education providers such as the District Office for Education, District Office for Industry and Trade, existing local NGOs, and other related institutions at the field level would increase multichannel learning effectiveness for empowering women farmers. This is especially true for women farmers who are badly in need of farm income, off-farm, and nonfarm earning for their family survival.

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Appendix 1. Population, occupation, land tenure, and number of communication appliances in Montong Tangi Village and Sakra Subdistrict, West Nusa Tenggara.

Items	Montong Tangi <sup>1</sup>	Sakra <sup>2</sup>
Total of population	5,555	122,282
Female	2,899	62,530
Male	2,656	59,752
Number of population of 10-60-year old	3,533 (63.6)	81,144 (66.4)
Number of female of 10-60-year old	1,906 (34.3)	43,292 (35.4)
Number of population working in agricultural sectors	2,560 (46.1)	39,019 (31.9)
Land owner	619 (24.2)	19,333 (49.5)
Share cropper	77 (3.0)	2,939 (7.5)
Farm labourer	1,864 (72.8)	16,492 (42.3)
Livestock farmer	-	255 (0.7)
Number of population working in nonagricultural sectors	404 (7.3)	7,953 (6.5)
Trading	250 (61.9)	3,780 (47.5)
Handy craft	72 (17.8)	2,570 (32.3)
Small industry	82 (20.3)	1,602 (20.2)
Industry	-	1
Household		
Number of household	1,440	26,574
Number of household having access to electricity	750 (52.1)	13,605 (52.1)
Communication		
Number of household which own radio	60 (4.2)	5,701 (21.5)
Number of household which own comm. radio	0	13 (0.05)
Number of household which own TV sets	40 (2.8)	2,429 (9.1)
Number of household subscribing newspaper/magazine	0	0
Number of public television	0	5
Number of post office	0	1

Numbers in parentheses are percentage to the total figures.

Source: <sup>1</sup>The East Lombok Statistic Office and The East Lombok Regional Development Agency (1997)

<sup>2</sup>The West Nusat Tenggara Statistic Office (1997)

Appendix 2. Socio-economic condition of Montong Tangi Village and Sakra Subdistrict, West Nusa Tenggara.

Items	Montong Tangi <sup>1</sup>	Sakra <sup>2</sup>
Number of school		
Pre-school (private school)	0	12
Primary school (public and private school)	4	106
Junior high school (public and private)	1	6
Senior high school (public and private)	0	3
Community college/university	0	0
Number of income generating activity group		
P4K womens group	30	233
Family well-being saving group ( <i>Takesra</i> )	34	452
Family well-being income generating activity group ( <i>Kukesra</i> )	34	452
Community group ( <i>Pokmas</i> )	0	172
Number of household by source of drinking water		
Local drinking water corporation	231 (16.0)	4,959 (18.7)
Private well	250 (17.4)	7,491 (28.2)
Water pump	0	174 (0.7)
River	0	84 (0.3)
Number of household by source of fuel		
Fuel wood	800 (55.6)	19,672 (74.0)
Kerosene	640 (44.4)	5,874 (22.1)
Liquid natural gas	0	10 (0.04)
Number of household by housing quality		
Permanent	815 (56.6)	9,464 (35.6)
Semipermanent	375 (26.0)	8,585 (32.3)
Nonpermanent	250 (17.4)	8,533 (32.1)
Number of household by well-being criteria		
Pre-well being family	na	13,001 (48.2)
Well being family I	na	9,079 (33.7)
Well being family II	na	3,412 (12.7)
Well being family III	na	1,382 (5.1)
Well being family III plus	na	91 (0.3)
Number of economic facilities		
Market	2	7
Grocery kiosk	15	363
Shop	0	11
Village co-operative society	0	3
Bank	0	2

na = no available

Numbers in parentheses are percentage to the total figures.

Source: <sup>1</sup>The East Lombok Statistic Office and The East Lombok Regional Development Agency (1997)<sup>2</sup>The West Nusat Tenggara Statistic Office (1997)



Appendix 3. Gender analysis in seasonal calendar of farming activities, Montong Tangi, Sakra Subdistrict, West Nusa Tenggara.

Activities	First planting season				Second planting season					Third planting season				
	Nov.	Dec.	Jan.	Feb.	Feb.	Mar.	Apr.	May	Jun.	Jun.	Jul.	Aug.	Sept.	Oct.
<b>Shallot</b>														
Land cultivation	M													
Building seed bed	<u>M</u> m													
Fertilizer application		<u>M</u> F												
Feeding in irrigation water		M												
Planting		<u>M</u> Fmf												
First weeding		<u>ME</u> mf												
Pesticide application		<u>M</u> F												
Second weeding			E Mmf											
Harvesting				<u>EM</u> fm										
Transporting produce				<u>MF</u> fm										
Drying produce				E Mfm										
Tying and sorting produce				<u>M</u> Fmf										
Selling produce				MF										
<b>Rice</b>														
Seed bed preparation and sowing					<u>M</u> F									
Feeding in irrigation water						M								
Land cultivation						M								
Planting						E f								
First weeding						E Mmf								
Fertilizer application						<u>M</u> F								
Pesticide application						<u>M</u> F								
Second weeding							E Mmf							
Fertilizer application							<u>M</u> F							
Harvesting										<u>MF</u> fm				
Threshing										MF				
Transporting produce										<u>M</u> F				
Drying produce										E Mmf				
Storing produce										<u>M</u> F				

Note: M = adult male, m = male children, F = adult female, f = female children

## Appendix 3 (continued)

Activities	First planting season				Second planting season					Third planting season				
	Nov.	Dec.	Jan.	Feb.	Feb.	Mar.	Apr.	May	Jun.	Jun.	Jul.	Aug.	Sept.	Oct.
<b>Tobacco</b>														
Sowing											<u>M</u> Fmf			
Land cultivation												M		
Building seed bed												<u>M</u> m		
Feeding in irrigation water												M		
Planting												<u>M</u> F		
Fertilizer application												MF		
First weeding													MF	
Pesticide application													MF	
Liquid fertilizer application													MF	
Second weeding													MF	
Pesticide application													MF	
Remove tip of the stem													MF	
First harvesting														<u>MF</u> fm
Sorting														M
Typing produce														E Mmf
Transportation produce														<u>M</u> mf
Oven handling														M
Leave cutting														F
Selling (by husband's approval)														M/F

Note: M = adult male, m = male children, F = adult female, f = female children