

KFCP Alternative livelihoods: Farmer Field School Implementation Report



This report was prepared for
The Kalimantan Forests and Climate Partnership



Australia Indonesia Partnership
Kemitraan Australia Indonesia



This report was prepared in accordance with the guidelines at the time of writing, including the overview of the KFCP project below. This research was carried out in collaboration with the Governments of Australia and Indonesia, but the analysis and findings in this paper represent the views of the author/s and do not necessarily represent the views of those Governments.

Australia's International Forest Carbon Initiative is a key part of Australia's international leadership on reducing emissions from deforestation. The Initiative will support international efforts to reduce deforestation through the United Nations Framework Convention on Climate Change (UNFCCC). It aims to demonstrate that reducing emissions from deforestation and forest degradation can be part of an equitable and effective international agreement on climate change. A central element of this is the Initiative's focus on developing practical demonstration activities in our region, particularly in Indonesia and Papua New Guinea.

Indonesia and Australia are working together under the Indonesia- Australia Forest carbon Partnership (The Partnership) to support international efforts on REDD through the UNFCCC. A key focus is on practical demonstration activities to show how REDD can be included in a future global outcome on climate change. Activities under the partnership are funded through Australia's \$200 million International Forest Carbon Initiative (IFCI) administered by the Australian Department of Climate Change (DCC) and AusAID.

Australia has committed \$30 million over four years to the Kalimantan Forests and Climate partnership (KFCP). Under the KFCP, Australia and Indonesia are working together to develop and implement a large scale REDD demonstration activity in Central Kalimantan. The KFCP is the first REDD demonstration activity of its kind in Indonesia. It aims to demonstrate a credible, equitable and effective approach to reducing emissions from deforestation and forest degradation, including from the degradation of peatlands, than can inform a future global outcome on climate change. With an overall funding target of \$100 million, the KFCP aims to raise remaining funding through contributions from or coordinated actions with the private sector or other donor countries.

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Introduction

Background

One of the key principles of REDD and KFCP is, at a minimum, the prevention of worsening the socio-economic status of any element of communities effected by REDD and participating in the KFCP demonstration activities. In order to meet this principle, the KFCP is to working with communities to develop alternative livelihoods that will contribute to making up for any economic losses due to changes in land use and access due to REDD and KFCP interventions.

In addition, this aspect of the KFCP intervention is of key interest to the Kapuas District Government, which has made economic growth and development one of its main priorities for the area. Therefore, the development of the alternative livelihood strategy was both important for meeting the principles of the KFCP and also for developing the partnership between the program and District Government.

Initial surveys and studies by ICRAF¹, CARE², and the Livelihoods Development Consultant indicated that two commodities, *gemor* and rubber, showed the best potential for development as alternative livelihoods. Follow up studies of the *gemor* and rubber value chains³ concluded that developing the rubber value chain held the better potential for quickly improving the livelihoods of a large percentage of families, particularly in Block A, where over 50% of the households reported rubber as either their primary or secondary source of livelihoods.

As this recommendation became firm, a participatory needs and opportunity assessment of the areas rubber farmers was conducted in order to develop the curriculum for a farmer field school. This assessment found that the Farmer Field School would need to address, at the village level the following issues:

- Poor rubber replanting and cultivation practices;
- The poor tapping techniques and post harvest processing and low quality of rubber and the resulting low farm gate prices;
- Improving the market chain by connecting farmers and factories; and
- Peat land water and environmental management.

Based on these findings, the Farmer Field School Consultant developed a draft curriculum and Training of Trainers (ToT) was conducted in mid May 2010. This activity was originally scheduled for April 2010, but was delayed due to the need for the KFCP to prioritize project socialization activities at the district and village levels. The ToT was rescheduled in order not to delay the socialization activities. The result was

¹ Suyanto et. al., *Analysis of Local Livelihoods From Past to Present in the Central Kalimantan Ex Mega Rice Project Area*, 2009, for KFCP

² Page et. al., *Final KFCP Socio-Economic Baseline Report*, 2009, for KFCP

³ Kristedi and Kieft, *Commodity Status Report: Rubber and Commodity Status Report: Gemor*, March 2010, for KFCP

that the Farmer Field School Consultant was not available for half of the Training of Trainers due to a long-standing commitment that could not be rescheduled. The Alternative Livelihoods Team Leader stood in for the Farmer Field School Consultant in order to finish the ToT. The ToT focused on working with the CE Team facilitators to design the curriculum sessions. Due to limited time, there was not an opportunity to simulate/practice these session designs.

Goals and Objectives of FFS

The goal of Phase I of the Farmer Field School is to:

- *Develop the participants' ability to increase the quantity of rubber produced and to gain higher prices for that rubber through improving the rubber value chain.*

The objectives of phase I of the Farmer Field School are to:

- Socialize the Farmer Field School and recruit Farmer Field School Participants;
- Identify the importance of rubber as a commodity to the community and farm families;
- Develop the Participants' understanding of the market chain and develop individual and group strategies to maximize the prices they receive for their rubber; and
- Develop the technical skills in tapping and post harvest processing in order to produce quality rubber that will garner higher prices from buyers.

The curriculum to achieve these goals and objectives consisted of the following sessions:

- Socialization Session to introduce the Farmer Field School to the community;
- Recruitment Meeting to recruit participants and develop the learning contract with them;
- Group Awareness and Preparation for Market Chain Survey (I) to identify the importance of rubber to the community and describe the market chain;
- Market Chain Survey Visits by group representatives to interview and observe buyers at the factories;
- Post Study Visit Analysis of Market Chain and Marketing to share the results of the survey visits with the other Farmer Field School participants and develop strategies to maximize the opportunities in the market chain;
- Rubber Standards and Elements of Rubber Pricing in order to understand the factors that influence rubber prices;
- Managing Harvest and Post Harvest in order to increase rubber yields and process good quality rubber; and
- Evaluation of Phase I of the Farmer Field School.

Implementation

The piloting of phase I of the Farmer Field School was conducted in two settlements. The first was the village of Mantangai Hulu, and the second was the settlement of Tumbang Mangkutup. Both areas were chosen because of their dependence on rubber.

Mantangai Hulu is a large settlement in Block A with a large number of rubber farmers as well as community members exploiting the peat lands opened up by the ex-mega rice project. Tumbang Mangkutup is a more distant and secluded settlement whose inhabitants have recently begun establishing rubber plots. The difference in size and location of each of these settlements would provide the pilot the opportunity to implement the Farmer Field School in two different environments.

Socialization

The goals of the farmer Field School Socialization are to introduce the Farmer Field School, its goals, objectives, and process, to the village members and rubber farmers in the village of Mantangai Hulu and the settlement of Tumbang Mangkutup. The socialization meeting was designed with the goal that after the session, the participants would:

- Be able to explain the goals, objectives, and activities of the Farmer Field School;
- Be ready to accept the Farmer Field School in the community;
- Identify the issues facing them as rubber farmers; and
- Provide input into the Farmer Field School design.

The socialization meetings coordinated with both local and village government who assisted with inviting participants and providing space for the meeting (in Mantangai Hulu, the meeting was held at the Village Hall (*Balai Desa*) and in Tumbang Mangkutup, the meeting was held at the house of the village head.

As part of the socialization process, the groups in both villages were asked to brainstorm main issues/problems for rubber production in their villages and then discuss and list out the underlying causes of those problems. This data was then compared with the Farmer Field School design in order to ensure that the design would address the felt needs of the local farmers. The results of these sessions are presented below.

Forty-nine villagers (13 men and 36 women) participated in the meeting in Mantangai Hulu and 26 villagers (12 men and 14 women) participated in the meeting in Tumbang Mangkutup.

The issues identified by the group in Mantangai Hulu ordered by priority were:

- Low prices;
- Pests and diseases;
- Low productivity (fertility) of rubber;
- Old rubber trees;
- Watery rubber; and
- Fires and floods.

According to these participants the reasons for these problems were:

Problem	Causes
Low prices	Mixing rubber with scraps and rubber bark; Dirty water; “Games” or low prices from collectors;

Pests and diseases	Not keeping fields clean; Termites; Land which is of low fertility;
Low rubber fertility	Floods; No fertilization nor maintenance; Lack of investment money;
Old rubber	More resistant to fire and flooding; Intentionally left that way; No replanting;
Low rubber production	Lack of fertilizer; (Too) Often tapped; Attacked by pests and disease;

The issues identified in Tumbang Mangkutup were similar to those identified in Mantangai Hulu. With the top 7 problems prioritized, the issues identified by this group were:

1. Declining production;
2. Low prices;
3. Only a few own productive rubber land;
4. Fires;
5. No replanting has ever been done;
6. Pests;
7. Rubber trees are easily uprooted;
 - Floods;
 - Less latex from each tapping;
 - Latex production declines in dry season;
 - Different and changing prices;
 - Price information is only from collectors;
 - Disease (kanker batang); and
 - Trees often die during flood periods.

The causes for these problems, as identified by the group, were:

Problem	Causes
Low productivity, little latex, and disease	Too much tapping too often; Poor quality seeds; Climate and weather; The age of the rubber trees is old; Productive trees are often shared among family members; Rubber bark is eaten by orangutans; Rubber trees are never fertilized; Farmers don't know how to maintain their rubber trees; Farmers don't yet know the best methods for tapping rubber trees;
Rubber trees being uprooted	Floods; Pests; The type of soil/peat;

Pests	The group doesn't know the reasons for pests;
Low prices	Low quality rubber; Prices are set by collectors; Transportation costs to the factories are high; There is no accurate information on pricing;
Only a few own productive rubber land	Rubber has only recently been planted (in many plots); There is no money (for investing in rubber); For new families (interested in rubber) there is no land; Fires;
No replanting has ever been done	There is not yet any intention to replant; Farmers don't know the methods of replanting; Farmers have not received information from the extension services about replanting;
Fires	Poor maintenance of land; Lack of equipment and manpower to fight fires

In the following sessions for both groups, the issues identified by the groups were compared with the proposed Farmer Field School curriculum. In these comparisons, it became clear to the participants that the proposed Farmer Field School would address all of their issues except one. The one issue not directly included in the current Farmer Field School curriculum was the issue of access to money for capital investments. All the other issues were covered in the Farmer Field School curriculum and would be covered during the program.

Participants

The week following the village level socialization of the Farmer Field School, a follow up "recruitment" meeting was held in each location for farmers wishing to participate in the Farmer Field School.

The objectives of the recruitment meetings were to review again the curriculum and sessions for this phase of the Farmer Field School, sign up participants, and develop a learning contract with all of the Farmer Field School Participants.

The criteria for participation in the Farmer Field School trials were:

- Participants were ready to participate in the Farmer Field School voluntarily (without any form of payment);
- Participants owned and actively managed their rubber plots and were able to apply learnings from the Farmer Field School to their rubber;
- Participants were healthy in spirit and body;
- There should be equal distribution of women and men in the Farmer Field School if possible; and
- Participants were able to share the results and their learnings from the Farmer Field School with other farmers in the village.

In Mantangai Hulu, 21 participants (17 men and 4 women) signed up to participate in the Farmer Field School. This was despite initiations not being delivered in one section

(RT) of the village. In this section, the Section Head did not deliver the initiations after learning that there would be no reimbursement or “pocket” money for the participants.

In Tumbang Mangkutup, 14 participants (9 men and 5 women) signed up to participate.

Below are the lists of participants from the two sites.

Mantangai Hulu				Tumbang Mangkutup	
No.	Name	Gender	Address	Name	Gender
1	Ahmadi	M	RT I	SURIATO.S.E	M
2	Murni Sendri	M	RT I	DIWEN	M
3	Renda Kasih/Muda H.S.	W	RT I	PUNDING S.H.S	M
4	Sano	M	RT I	ARDIANSYAH	M
5	Sarindu Y.M.	M	RT I	ANAN ATAK	M
6	Hartadi	M	RT I	BERSIHAN	M
7	Udi Kade	M	RT II	SURIYA	M
8	Norsiaty	W	RT II	ILAWANSI	W
9	Eranus Uwang	M	RT II	MERAI	W
10	Bangun Aspar	M	RT II	DELA ATAK	W
11	Udak Kade	M	RT II	SURIAJI	M
12	Basri H. D.	M	RT III	IMIS	M
13	Tiwau	M	RT III	URAUNAH	W
14	M. Imam Hambali	M	RT III	ADAWIYAH	W
15	Suwanfri	M	RT III		
16	Ijar	M	RT III		
17	Tito Sendar	M	RT IV		
18	Hamdi	M	RT IV		
19	Sugianto	M	RT IV		
20	Meluh D.R.	W	RT IV		
21	Lide	W	RT IV		

Activities and schedule

Farmer Field School activities began on May 18 and continued through July 15, 2010. In general, there was one meeting per week in each settlement. Below is a record of the actual dates the activities were implemented in the two Farmer Field School sites.

	Mantangai Hulu	Tumbang Mangkutup
<i>Activity</i>	<i>Date</i>	<i>Date</i>
Socialization	May 29	May 28
Recruitment Meeting	Jun 11	June 9

Group Awareness and Preparation for Market Chain Survey (I)	June 18	June 18
Market Chain Survey Visits	June 21 – 23	June 21 – 23
Post Study Visit Analysis of Market Chain and Marketing	July 2	July 2
Rubber Standards and Elements of Rubber Pricing	July 9	July 3
Managing Harvest and Post Harvest	July 13	July 12
Evaluation	July 15	July 13

Farmer Field School Sessions

Group Awareness and Preparation for Market Chain Survey

The objectives of the session on Group Awareness and Preparation for the Market Chain Survey were:

- The participants will be able to explain the level of contribution of rubber to the community's economy;
- The participants will be able to explain the contribution of rubber to their incomes;
- The participants will be able to explain trends in rubber over the past 5 years;
- The participants will be able to explain the rubber market chain; and
- The participants will develop questions for the market survey team.

The group in Mantangai Hulu brainstormed via metapanning (using cards) why they were interested in cultivating the rubber. The responses were:

- Rubber is an important source of livelihood for me;
- Rubber is one of the communities businesses;
- Because it is difficult to look for other livelihoods and rubber gives income every day;
- Rubber plots are seen as superior from other economic activities;
- Rubber provides quick incomes and easy benefits for the community;
- Rubber can guarantee life for the community;
- Rubber can overcome green-house gasses;
- As a source of community business, rubber can meet the daily needs of the community;
- Rubber is our livelihood;
- Rubber can support our lives;
- Rubber can boost community lives and can meet daily needs for income
- Rubber can be sold for cash;
- Rubber adds to family incomes;
- Income from rubber plots is good enough;
- Daily production from rubber is larger compared to other commodities; and

- Large benefits that meet daily needs.

In summarizing the brainstorming on why rubber is important to the community, the group developed 5 main reasons:

1. Rubber supports/boosts daily income for families;
2. Rubber provides a steady/fixed income;
3. The community is already used to producing and selling rubber;
4. Rubber production and incomes are larger/better than alternatives; and
5. Proper rubber cultivation can overcome green house gas emissions.

Following this session, the group broke into 4 sub-groups to identify trends in rubber over the past five years. The groups estimated rubber production and prices over the past five years. The detailed results of the individual sessions are attached in the session report in the annexes. The overall trends over the past five years that were identified were:

- Rubber production has been variable, ranging from constant to declining;
- Rubber prices have increased year on year
- Prices have been dependent on factory demand (high before 2009 and low in 2010) and rubber quality.

Based on the results of these discussions, the groups' data shows the following estimated income for the farmers that provided the sample data. This data is a rough estimate of income from rubber for a number of farmers and indicates that rubber provides an important contribution to their annual income⁴:

	Year	Kg Rubber Produced	Average Price Estimate	Estimated Income in Rp.
Example Farmer	2010	10,400	4,750	49,400,000
Group 1 Farmer	2010	14,400	4,500	64,800,000
Group 2 Farmer	2010	5,400	4,750	25,650,000
Group 3 Farmer	2009	8,710	5,500	47,905,000
Group 4 Farmer	2010	18,000	5,500	99,000,000

The group in Tumbang Mangkutup generated similar, if less detailed, results regarding the importance of rubber and rubber trends over the past five years. The group identified rubber as the main source of livelihoods in the settlement, followed by fishing and timber. The trends in rubber identified were also similar. Production has remained relatively constant and prices have risen over the past five years, except for a downturn in 2009.

The Rubber Market Chain

Following the discussions on the contribution of rubber to village and family economies, the groups discussed their perceptions/knowledge of the market chain and then developed questions for the market survey visits.

⁴ For comparison, a daily laborer earning Rp. 45,000 per day working 6 days a week for 52 weeks would earn Rp. 14,040,000.

Both groups understood the basic market chain for rubber in the region, reporting that rubber passes from the farmer to local collectors to regional collectors and finally to the local factories that then sell to national and international factories.

In Mantangai Hulu, the group discussed the roles of each actor in the value chain. The results of their discussion are presented in the table below:

Roles of Actors in Rubber Market Chain

Farmers	Rubber Collectors	Local Rubber Factories	Rubber Industry
Produce raw rubber	Set price according to the quality of the rubber	Collect and process quality rubber	Make the final products, such as tires and other products, out of the rubber
Sell rubber in the village	Purchase rubber	Set prices based on the quality of the rubber	
Negotiate prices	Negotiate prices	Reduce prices if rubber is of low quality	
Ensure quality	Set prices for quality	Export rubber	
Ensure the accuracy of the scales use at time of sale	As much as possible sell approved coagulants for processing rubber	Process exportable rubber	
Search for price information			

In Tumbang Mangkutup, the group discussed in more detail their satisfaction and dissatisfaction with the market chain. For this group, the positive aspect of the market chain was the ability to sell rubber at any time in the village, without having to pay transportation and take the time to deliver the rubber. The negative aspect of the market chain, according to this group was that it was the collectors who set the price and the farmers did not have information on the price of rubber further up the market chain.

Preparation for the Market Survey

In preparing for the market survey, both groups were asked to develop the objectives for the visit, and develop a list of information that should be collected during the survey.

In Mantangai Hulu, the group developed the following objectives:

- See and learn about good quality rubber;
- See and learn about the pricing standards at the factory;
- See the different quality levels of rubber delivered to and bought by the factories;
- See the results of the factory’s lab tests for Dry Rubber Content;

- Gain experience;
- Collect price information;
- Develop connections and networks with the factories; and
- Observe the process of selling and buying at the factories;

In Tumbang Mangkutup the group developed the following objectives:

- Visit the factories;
- Observe the factories and their process;
- Gain accurate knowledge of the market chain;
- Understand what is done and not done in the rubber market;
- Observe and learn about profits and losses in the rubber market; and
- Collect price information on rubber.

Based on these objectives, both groups developed questions for the factories, government, and, GAPKINDO. These questions are arranged by settlement in the table below:

Mantangai Hulu	Tumbang Mangkutup
<p>Questions on Pricing:</p> <ul style="list-style-type: none"> • What are the prices for good quality rubber? • Why are rubber prices volatile (not stable)? • Who actually sets the increases and decreases in rubber prices? • Who sets the standard prices for rubber at the farm gate? • Why do different regions have different prices? Why is the price for Mantangai rubber cheaper? • How do prices pass through the market and why do farmers receive minimal prices for rubber? <p>Questions on quality:</p> <ul style="list-style-type: none"> • What is the process for making good quality rubber? • What is bad quality rubber like? • What is the Dried Rubber Content of Mantangai rubber • How is the lab test for Dried Rubber Content done? • How is rubber quality measured? • What are the differences in coagulants (local vs. recommended) for coagulating rubber? • Why does rubber coagulated with local 	<p>Questions on Pricing:</p> <ul style="list-style-type: none"> • How do the factories set their prices? • What is the highest farm gate price for rubber? • Why does the price of rubber constantly change? What does the price depend on? <p>Questions on Quality:</p> <ul style="list-style-type: none"> • What quality of rubber do the factories accept? • Can we see examples of different quality rubber? • Is there an instrument that farmers and collectors can use to measure Dried Rubber Content? <p>Questions on market chain:</p> <ul style="list-style-type: none"> • Can farmers sell directly to factories, and if so what are the rules and processes for doing so? • What is the process for establishing partnerships between farmers, collectors, and factories? <p>Questions on support and improvement:</p> <ul style="list-style-type: none"> • Where can farmers buy the recommended coagulants? • How can farmers get price information

<p>materials sell for a low price?</p> <p>Questions on market chain:</p> <ul style="list-style-type: none"> • Is there a written contract between collectors and factories • How can farmers get price information on rubber? • Can farmers sell directly to factories? <p>Questions on support and improvement:</p> <ul style="list-style-type: none"> • Is there assistance for getting coagulants for free? • Is there assistance regarding fertilizers for farmers? • What can we do to improve rubber prices at the farm gate? 	<p>on rubber?</p> <ul style="list-style-type: none"> • How can we improve the price of rubber?
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At the end of each session, the groups chose 4 to 5 of their members to participate in the market chain survey. Those members were:

Mantangai Hulu	Tumbang Mangkutup
Pak Ahmadi (RT I)	Pak Suriato (village collector)
Pak Bangun Aspar (RT II)	Pak Bersihan (farmer)
Pak M. Imam Hambali (RT III)	Pak Imis (farmer)
Pak Hamdi (RT IV)	Pak Ilawansi (farmer)
	Pak Punding (farmer)

Market Chain Survey Visits

The market chain survey visits took place on June 21st and 22nd, 2010. On June 21st, the group, consisting of the representatives from the two Farmer Field Schools and facilitators from the CE Team, visited PT Karya Sejati, the rubber factory located in Kapuas. The following day, the group visited PT Insan Bona Fide, a rubber factory in Banjarmasin, met with GAPKINDO, and visited *Toko88*, a store that sells the recommended coagulant for processing rubber.

Below is a summary of the information collected by the participants of the market survey visits.

1. Participants observed the quality of the desired rubber factory:
 - a. Rubber coagulated using recommended coagulants
 - b. Contamination not more than 5% (must be clean)
 - c. Post harvest handling of rubber as recommended (not soaked or sun dried)

2. Participants observed the kind of rubber that was rejected by the factory:
 - a. Rubber processed with non-recommended coagulants.
 - b. Contamination higher than 5%
 - c. Rubber processed with dirty water (mixed with soil / sand)
3. Participants discussed the opportunities for farmers to sell directly to the factory with the understanding that a number of conditions must be met:
 - a. The Rubber delivered must be of good quality;
 - b. Minimal delivery amount is 100kg; and
 - c. Collectors who bring the rubber must have a STPPB (rubber trade Registration Certificate) issued by the respective District Agency of Industry, Trade, and Cooperatives.
 - d. The steps for delivering to the factory
4. Farmers learned that they could obtain price information by sending an SMS and or phoning directly to the factories of PT. Karya Sejati, PT. Insan Bona Fide, and GAPKINDO
- 5a. The participants discussed the calculation of rubber prices in line with government regulation (*Permentan*) no. 38/2008 concerning Guidelines for Processing and Marketing of rubber:
 - a. The minimum price at farm level is $FOB \times DRC \times 75\%$.
 - b. The minimum prices at the factory level: $FOB \times DRC \times 85\%$.
- 5b. The participants discussed the key factors in determining rubber prices, which include:
 - a. Dried Rubber Content;
 - b. Exchange rate between Rupiah and US dollar;
 - c. Rubber quality;
 - d. Street price;
 - e. Supply of rubber on hand at factory;
 - f. Change of seasons;
 - g. Regional differences in price due to differences in Dried Rubber Content – upland rubber naturally has a higher Dried Rubber Content.
6. Discussions on how Dried Rubber Content is determined:
 - a. Factory Insan Bona Fide estimates Dried Rubber Content visually;
 - b. Factory Karya Sejati uses laboratory testing and visual estimation (the most widely used method is visual estimation);

c. All collectors use the visual system;

- Laboratory test systems require a minimum of seven hours to find out the results of K-3;
- Visual System: the fastest time to determine the K-3 and the price;

7. The presence of latex freezers materials supplier information:

- a. Deorup SOP is available at *Toko 88* with a price of Rp. 11,00/600 ml bottle;
- b. Deorup is available at *Factory Insan Bona Fide* at the price of Rp. 24,000 / 2 liter bag;

8. Support from GAPKINDO:

- a. GAPKINDO has previously provided support in obtaining seeds and seedlings, but currently is not offering any direct support to farmers;

9. Support from government:

- a. The Agency for Plantation and Forestry and the Agency for Industry, Trade, and Cooperatives, and Agency for Small and Medium Enterprises (SME) all have roles in supporting and regulation rubber farmers and traders.

Based on the results of their visit, the participants of the market chain survey compiled the following description of current and desired market chain conditions.

B. CHAIN MARKET CONDITIONS

CURRENT CONDITION	Desired Condition
1. FACTORY:	
<ul style="list-style-type: none"> • Still accepting low quality rubber; • Still accepting rubber processed with non-recommended coagulant; • Collectors still have not received STPPBs • Pricing is still based on visual estimation of DRC; 	<ul style="list-style-type: none"> • Rubber quality meets recommendations; • Rubber is managed and processed on the farm as recommended; • Factories apply rules and regulations consistently; • Farmers can sell rubber directly to factories ;
2. FARMER:	
<ul style="list-style-type: none"> • Farmers are producing poor quality rubber; • High levels of contamination; • Rubber is still being soaked in water; • Use of non-recommended coagulants; • There is not yet a common understanding regarding quality rubber among all players; 	<ul style="list-style-type: none"> • Farmers use recommended practices in managing and processing rubber for sale; • Farmers understand the factors that determine rubber prices; • Farmers can get price information from buyers; • There should be coagulant supplier at

<ul style="list-style-type: none"> • Difficult for farmers to obtain price information; • It is difficult to obtain recommended coagulants; 	the village level;
<ul style="list-style-type: none"> • Farmers and collectors do not know the rules/regulations about rubber quality, pricing, and trading; • Farmers and traders do not know how the price differences between regions is determined; 	<ul style="list-style-type: none"> • Regulations about rubber are disseminated by all relevant parties to farmers and collectors; • There is transparency among all market chain players; • Collectors and factories do not purchase poor quality rubber;
3. Government:	
<ul style="list-style-type: none"> • There is no quality control and/or scale calibration by all relevant parties (Commerce Department); 	<ul style="list-style-type: none"> • Rubber quality control is undertaken by related parties;
5. Market chain:	
Farmers ⇒village collectors ⇒regional collectors ⇒Factories Or Farmers⇒collector⇒Factory	Farmer⇒collector⇒Factory Farmer⇒Factory Farmer⇒Farmers Group)⇒factory

Having developed a description of current and desired states of the market chain for their rubber, the group identified opportunities and barriers for achieving the desired state. These opportunities and barriers are:

OPPORTUNITIES

1. For the FARMER:

- a. There is an opportunity for farmers to sell directly to the factory;
- b. Increase prices by improving quality;
- c. Develop Farmer Group / Business Group;
- d. Sustainable production of rubber;
- e. There are government rules (Permentan no. 38/2008; Permendag no. 53/2009, Law no. 18/2004);
- f. Farmers can access the price information;
- g. There are Agencies there to run socialize rules and regulations and develop the rubber value chain (Forestry; Industry, Trade, and Cooperatives; SMEs; GAPKINDO; Factories);

- h. Recommended coagulants are available;
 - i. Farmers can access capital from the Bank with the recommendations of the factories;
 - j. The existence of the programs by government and private parties;
 - k. The human resources at farm level;
 - l. The factories do not have their own plantation areas;
2. For the FACTORIES / COLLECTORS:
- a. Factories and collectors require large amounts of raw materials;
 - b. There are government rules that require factories rejecting bad quality rubber from farmers.

BARRIERS

1. For the FARMERS:
- a. Remote and distant from factories;
 - b. Collectors and manufacturers are still buying poor quality rubber;
 - c. There is currently no Business Groups active;
 - d. Seasonal influence on harvesting and production, combined with traditional, non-recommended tapping practices;
 - e. Farmers do not yet know about the government regulations on rubber quality and trade;
 - f. Not all regions can access price information quickly and/or do not know how to access that price information;
 - g. There has been no socialization about the rules because agencies have never implemented socialization for farmers;
 - h. No suppliers of regulated coagulants at the village level;
 - i. Farmers do not have capital;
 - j. Administrative process is difficult for accessing loans from Banks;
 - k. Not all regions have programs;
 - l. The program has its limitations (funds and time);
 - m. There are limited human resources available in the village; and
 - n. Transfer of knowledge is difficult and experience is lacking.

2. For the FACTORY / COLLECTING:

a. Rubber supplies are not fixed or consistent due to:

- Prices are not stable (depending on international market prices);
- Influence of seasons;
- The factories do not have the rubber plantations;
- There is no oversight from the government at the farm level and of collectors regarding rubber quality and trading;
- There is no practical tool to measure the K-3, only visual estimation;

Based on these opportunities and barriers, the group developed the following strategy for developing the rubber market chain in their villages.

Strategy	Parties Responsible
Encourage the establishment of Business Groups for rubber	Government and private actors
Strengthen existing groups	Government and private actors
Fostering sustainability of rubber production	Government and private actors
Disseminated rules on quality and sustainable rubber trade	Government, private actors, factories, and GAPKINDO
Ensure market chain players are consistent in implementing the existing rules and regulations	Factories, collectors, farmers, business groups, and government
Recommended coagulants are made available to farmers in the villages	Government, distributors/private actors, factories
Provide facilities and infrastructure for farmers to get access to price information	Government (and factories/GAPKINDO)
Convey information to relevant institutions	Private actors, NGOs, farmers, and collectors
Increase awareness about the quality of the farmers and rubber trade through programs and activities like the Farmer Field School	Government and NGOs
Develop quality control and the accurate rubber scales	Agency for Industry, Trade, and Cooperatives

Post Visit Analysis of Market Chain and Marketing

The Post Visit Analysis of the Market Chain and Marketing session consisted of:

- a. The representatives who participated in the field visit reporting back the findings of the visit; and
- b. The group developing, for itself, the current conditions, desired conditions, opportunities, barriers and strategies for developing the rubber market chain from their village and the Mantangai area.

Almost all of the information discussed in these meetings has been presented in the session description above. Therefore, in order to avoid repetition, this section will present only the priority issues and strategies agreed upon by both Farmer Field Schools. The detailed results of these sessions are attached in the annexes in *Bahasa Indonesian*.

In Mantangai Hulu, the group identified the following as important points from the field visit:

1. Good rubber quality will demand higher prices;
2. Do not use non-recommended coagulants;
3. Do not mix bark and other contaminants into the rubber;
4. Good rubber consists of 70% rubber, 30% water;
5. The recommended coagulant is Deorub SOP, which is available in Banjarmasin;
6. Rubber should be clean with impurities <1%;
7. Avoid heavily contaminating rubber because it can be punished and incur a fine;
8. The Dollar/Rupiah exchange rate affects the price of rubber;
9. Farmers can sell directly to the factory ;
10. Farmers can gain access rubber prices;
11. The experiment/trials regarding Dried Rubber Content at the factories was not open;
12. The factories estimate prices; and
13. When processing and storing rubber, do not put it in water or exposed to sunlight.

Based on their analysis of the market chain conditions, opportunities, and barriers, the Mantangai Hulu group prioritized the following actions of their strategy to improve local prices and the market chain.

1. Practice good coagulation of rubber latex using recommended practices;
2. Socialize the benefits of good quality rubber at the community level;
3. Socialize factory and government regulations and practices regarding the quality and pricing of rubber;
4. Farmers with village collectors sell directly to the factory ;
5. Form village-based economic (rubber) cooperative;
6. Supervise the weighing of rubber with collectors and at the factory;
7. Supervise the price and quality of rubber at the village/sub district level; and
8. The availability of clotting material in the village and district level.

Finally, the group identified key learnings from the experience. These were:

- Participants are newly aware of the importance of changing the quality of rubber;
- Farmers and collectors profit alike;
- There can be openness between farmers and collectors; and
- Factories and GAPKINDO are open regarding price information.

In Tumbang Mangkutup, the group identified the following information as the key points collected during the market chain survey:

- There is the opportunity for farmers to sell directly to factories;

- Factories desire high quality rubber;
- Calculation for the minimum price of rubber is the fob price of rubber x DRC x 75%;
- There is information on where to obtain recommended coagulants;
- The price of rubber is influenced by the world market;
- Price information can be accessed through SMS, telephone, radio;
- Recommendations on how to increase the price of rubber;
- The importance of improving the quality of rubber;
- Use the recommended coagulants;
- Farmers / gatherers who wish to sell to the factory must have an STPPB; and
- The existence of government regulations on rubber quality and rubber trade.

Based on their analysis of the market chain conditions, opportunities, and barriers, the Tumbang Mangkutup group prioritized the following actions of their strategy to improve local prices and the market chain.

- Improving the quality rubber they produce;
- Be proactive in seeking price information via SMS / phone;
- Develop access to recommended coagulants at farm / settlement level through existing groups or institutions (including traders);
- Work together to improve quality and trading conditions;
- Reactivate the existing farmer's group; and
- Working with KFCP, test sales to the factory to ensure that better quality rubber sold to factories will increase incomes for farmers.

In Tumbang Mangkutup, word of the visit to the factories circulated throughout the settlement, and 4 other villagers attended this meeting because they were interested in hearing the results of the visits.

Rubber Standards and Elements of Rubber Pricing

The Rubber Standards and Elements of Rubber Pricing session was designed to review the elements and factors that go into rubber pricing so that farmers could manage their rubber production in a way to maximize their sales price.

In both Farmer Field Schools, this session discussed the following topics:

- Rubber Quality;
- Rubber pricing regulations and formulas;
 - $US\$ \text{ FOB} \times \text{Rp. Exchange Rate} \times \text{Dried Rubber Content} \times 75\%$ (for minimum farm gate price);
- Factors in evaluating rubber quality;
 - Hard rubber earns higher prices than soft rubber;
 - Clean rubber can be sold; highly contaminated rubber should not be sold or bought;
 - White rubber is of higher quality than yellow or discolored rubber;
 - Rubber should have a strong rubber smell, not smell rotten or of non-recommended coagulants (e.g. vinegar or pineapple);
- Sources of pricing information:
 - HOK-TONG Banjarmasin : Yanti (081349371970);

- Karya Sejati Kapuas: Trisno (085248671608);
- Insan Bona Fide Banjarmasin: Andreas (081512319);
- GAPKINDO Banjarmasin: Hasan (0811508267);
- Types of rubber to produce and sell (slab or lump rubber).

The results of this session where follow up plans to practice harvesting and processing high quality rubber during the next session of the Farmer Field School.

Managing Harvest and Post Harvest Processing

The Managing Harvest and Post Harvest session provided the participants with hands on field practice of the recommended way of tapping latex and processing cup-lump rubber. These sessions were lead by the CE Team members and resource persons, Pak Adinoto and Pak Tahnatur Broto, from the district Agency for Forestry and Plantations (Dishutbun)

The session covered both instructions and practice in tapping rubber trees and processing the latex into raw rubber.

Instructions on tapping rubber included practice on making the tapping cut at the recommended depth, height, angle, and length. The session also covered the best time of day to tap the trees, collecting the sap and keeping it clean, and scheduling tapping based on the age of the trees being tapped.

The instructions on coagulating the latex demonstrated and gave the participants the chance to practice using two recommended coagulants, *asam semut* and Deurap SOP.

In Tumbang Mangkutup group, in the session evaluation discussion, reported that before the session they did not know if the way they were tapping their trees was hurting or abusing the trees in their rubber plots. For a long time, they had wondered if there were ways to increase their production. After the discussions and practice tapping rubber, the participants felt that they had learned new skills which would be useful to them. This was the first time they had been given training on this topic by trained resource facilitators. From their discussion, it was clear that the participants were becoming willing to try these practices in their rubber plots.

Regarding the coagulation of their rubber, the participants learned that, for those using *asam semot* (and many still use non-recommended methods for coagulating rubber), they were using both too much water and too much *asam semot* when coagulating their rubber. In large part, this was because they had not had training in using coagulants. They also did not pay too much attention to cleanliness and preventing contamination, although they did wipe the dirt out of containers to prevent the rubber from sticking. Finally, all the participants were impressed with Deurap SOP as a coagulant because, with this product, the coagulation process is very quick, taking approximately 5 minutes; this was a new experience for them.

The evaluation in Mantangai Hulu was similar with one addition. This group also discussed the differences in production between using their current methods and using the recommended methods. The farmers reported that they tended to harvest approximately 800kg of latex per hectare. According the government resource trainers, production could be as high as 1600kg per hectare.

As with the Tumbang Mangkutup participants, the participants in Mantangai Hulu reported that they were ready to test out and apply the methods introduced and practiced in the Farmer Field School.

Finally, in both villages, additional participants joined the this session in order to hear and learn from the government resource people the recommended methods for tapping and coagulating rubber.

Evaluation

The evaluation session covered a) participants feedback regarding each sessions, b) feedback regarding the usefulness and benefits of the content, c) suggestions for improvement, and d) follow up plans for after the farmer field school. A summary the evaluation for each Farmer Field School is presented below.

Mantangai Hulu

In Mantangai Hulu, the participants gave “Good ratings” to all of the sessions except the Managing Harvest and Post Harvest session. This session received a rating of “O.K.” mainly because a many of the participants in this Farmer Field School had already been exposed to the material. The respondents reported that the three sessions covering the Market Chain provided them with new and useful information on prices and government policy and the importance of quality. The potential for selling directly to the factories was also a positive for the participants, but some were still concerned that this is not a sure solution to receiving higher prices, thus some of the “o.k.” ratings for those sessions.

Session Evaluation Results by those who attended the Sessions in Mantangai Hulu

Socialization	Good	O.K.	Poor
Recruitment Meeting	16	0	0
Group Awareness and Preparation for Market Chain Survey (I)	16	4	
Market Chain Survey Visits	6		
Post Study Visit Analysis of Market Chain and Marketing	19		
Rubber Standards and Elements of Rubber Pricing	16	4	
Managing Harvest and Post Harvest	3	17	

The participants were then asked to list out what was useful and beneficial from the Farmer Field School Sessions. The answers fell into six categories – Pricing, Quality, Market Chain, Technical Skills, Government Regulations, and connections.

The participants felt they came away with a better understanding of the factors that influence price including quality, Dried Rubber Content, government and factory formulas for determining price, and the influence of the exchange rate on price. From the responses, it is clear that the participants understand the factories explanation of the connection between quality and price, the importance of Dried Rubber Content, how

to evaluate quality rubber, and how to produce quality rubber. The participants also mentioned the gained a better understanding of the rubber market chain, and valued meeting and getting information on prices and quality directly from the factories. A number of participants mentioned that they expected the new knowledge in tapping and coagulating rubber will help them improve the quality and quantity of their rubber harvests. Finally, a couple of participants stated that they valued the connections made within the group, between farmers and collectors, and with KFCP.

The group also gave the following suggestions for improving future farmer field schools:

- Provide written notes/guidance and also photos of methods and quality rubber as not all the participants can take good notes;
- Have very clear schedules at the beginning and end of meetings;
- Give out certificates for those attending the Farmer Field School;
- Develop a list of key phrases and their definitions;
- Provide Farmer Field School shirts for participants
- Add a session for discussing and testing marketing directly to factories

Below is the Farmer Field School follow up plan developed by the participants

Activity	Time/Place	Party Responsible	Support requested from KFCP
Participants apply recommended coagulations methods and explain them to other farmers	July and August, 2010	Farmer Field School Participants and KFCP	Support from KFCP for facilitating Farmer Field School participants monitor activities Support from KFCP to help farmers develop market for Deorub SOP in the village.
Farmers sell directly to factories	Mid August, 2010	2 Participant coordinators and village collectors	8 Farmer Field School participants will prepare a maximum of 500kg of rubber, and with village collectors sell directly to factories in Banjarmasin in order to a) learn the Dried Rubber Content of Mantangai rubber and b) compare incomes of selling in the village against selling directly to factories. Support from KFCP to facilitate the sales process and assist the farmers negotiate with the factories
Implement testing,			KFCP assist test and

using recommended coagulants to measure weight and income differentials between coagulated and traditionally processed rubber.			documentation of results.
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Tumbang Mangkutup

In Tumbang Mangkutup, the participants gave “Good ratings” to all of the sessions.

The socialization process was successful for the participants because it let the participants know that they would gain knowledge and experience if they joined the Farmer Field School. In particular, the participants were interested in information on managing and marketing their rubber. There were also interested in ways to get higher prices for their rubber.

The Recruitment session was successful because the learning contract was consensual and the system was voluntary. In addition, the curriculum, as presented appeared to meet the participants’ interests. The poor ratings for this session were more to do with the limited number of participants and that some were not able to participate due to this limit or due to conflicts with other duties.

The sessions covering the market chain received good ratings because the group was able to learn about the market chain, settlement representatives were able to:

- Meet with the factories and see the grading process,
- Learn what the factories were looking for in terms of quality of the rubber they were buying.
- Learn the factors that determined rubber prices

The negative ratings came from participants not being able to see the process for determining the Dried Rubber Content at the factories and the fact that, at the present time, there is no instrument for measuring dried rubber content in the field.

The Rubber Standards and Elements of Rubber Pricing session was rated “Good” because the group was able to learn and discuss the relation between quality and price and discuss the other factors that contributed to the price of rubber. The “poor” ratings were due to the fact that participants did not attend the session.

The Managing Harvest and Post Harvest session was rated “good” by the majority of participants because they considered the skills being taught to be useful and beneficial and because they had a chance to practice them in the field.

Below are the ratings for each session from the Tumbang Mangkutup Farmer Field School.

Session Evaluation Results by those who attended the Sessions in Tumbang Mangkutup

	Good	O.K.	Poor
Socialization	13		
Recruitment Meeting	10	1	3
Group Awareness and Preparation for Market Chain Survey (I)	10	1	3
Market Chain Survey Visits	4	1	1
Post Study Visit Analysis of Market Chain and Marketing	11	2	
Rubber Standards and Elements of Rubber Pricing	9	1	
Managing Harvest and Post Harvest			
Tapping	13	1	
Post Harvest/Coagulation	11	2	

The follow up plan by the Tumbang Mangkutup Farmer Field School is presented below:

Activity	Party Responsible	Time	Notes
Improve the quality of rubber	Farmers Collectors and Factories Government	Start August 1, 2010	Support from KFCP to get the recommended coagulants
Farmers actively seeking price information through SMS and telephone	Farmers Collectors and Factories Government and GAPKINDO	Start August 1, 2010	
There is access to recommended coagulants in the settlement	Collectors Cooperative Government	Start August 1, 2010	Through existing groups and institutions
Socialization of rules/regulations to farmers and collectors according to their function	Relevant Govt. Agencies Factories and GAPKINDO		
Make available communication infrastructure	Government		
Cooperation	Farmers and collectors Outside and village collectors Farmers, collectors, factories and government	Start September, 2010	KFCP requested to facilitate these activities
There is continued facilitation and guidance	Government Bank		
Reactivate existing groups (the Tuntung Pandang Cooperative)	Cooperative board and members Related agencies	Start August, 2010	Hold meetings and/or members meeting

Develop proposal requesting investment capital from banks, Agency of Industry, Trade, and Cooperatives, and private businesses	Cooperative		
Conduct experiment for selling directly to factories	Cooperative KFCP	Start August, 2010	Request KFCP to facilitate process an transportation to factories (Karya Sejati and Insan Bonafit)

Implementation Issues Encountered and Recommendations

As this activity was a pilot, the Farmer Field School facilitators reported issues that arose during implementation. The key issues and recommendations from their reports are described below.

- The communities have their own phrases for aspects of rubber cultivation and production that are different from pure Indonesian. Preparing a list of phrases and definitions would help establish a common vocabulary for the farmer field schools.
- A longer Training of Trainers would have been helpful so that the sessions could have been practiced before implementation in the field. However, this was not possible due to delays in the KFCP process resulting in the FFS Consultant not being able to participate for the complete ToT due to other work commitments. Therefore, working off of pilot, untested session designs was difficult at times for the CE Staff who were still learning to be trainers.
- One key issue was the length of the sessions. Some sessions, particularly the Group Awareness and Preparation for Market Chain Survey (I) session, attempted to cover too much information in one session.
- The sessions need to be flexible to deal with a small numbers of participants who may have to miss a session for acceptable reasons.
- Initially, the facilitators experienced low trust levels between farmers and collectors in the group. They also found that it appeared to the group that the goals of farmers to get better prices was incompatible with the goals of collectors who need to make a profit buying and selling the rubber. These issues declined over the course of the Farmer Field School, but facilitators of future Farmer Field Schools will need to be aware of this dynamic.
- The results of the grading workshop need to be formally incorporated into future designs of the Farmer Field School.
- If possible, socialize resource people with material, such as prepared handouts and posters, so that they refer to such material during their presentations. In addition, try to contract with the resource people to give an actual demonstration of tapping and/or coagulating as part of their presentation. This

would allow the participants to observe the process before actually practicing it themselves.

- In the Managing Harvest and Post Harvest sessions, one of the groups had many questions regarding the cultivation and maintenance of rubber. Future phase I Farmer Field Schools may consider adding a session to address such questions. In addition, the facilitators felt that practice time for the participants was limited; therefore, it may be appropriate to add an optional session on practicing the skills delivered in the Farmer Field school to ensure that all the participants have the opportunity to practice enough to obtain basic proficiency.
- Finally, this phase of the Farmer Field School should be extended to include experimentation on the part of farmers so that they can compare the income from adopting the recommended processes and selling more directly to factories against income from their current practices. Farmers will need to experience real benefits from adopting new methods and practices for the skills from the Farmer Field Schools to be truly adopted.
- Facilitating a Farmer Field School requires time and resources to prepare, implement, evaluate, and improve. The CE Team facilitators found this difficult while implementing the other activities of the CE Team. In the future, it is recommended that a dedicated team conduct the Farmer Field Schools in order to a) reach all of the villages and b) develop the depth skill and experience to develop a first class program.

Summary and Recommendations

Summary

The development of the alternative livelihood strategy was important for meeting the principles of KFCP and for developing the KFCP – Kapuas District partnership. The results of the initial KFCP livelihoods assessment indicated that there were two commodities, rubber and *gemor*, in the KFCP work area with the potential for quick development. Follow up in-depth assessments of the value chain of these two commodities showed that re-developing the *gemor* market was a medium term activity, and that the best potential for quick economic improvements rested in the rubber value chain. Therefore, given the short term nature of the KFCP schedule, the project decided to focus its efforts on rubber

A participatory training needs assessment of the area's rubber farmers showed that a following issues would need to be addressed in order to improve incomes from rubber production:

- Poor rubber replanting and cultivation practices;
- Poor tapping techniques and post harvest processing resulting in low yields and low quality rubber;
- Low quality rubber from the region results in low farm-gate prices;
- Inefficiencies, particularly in pricing signals, in the market chain between factories and farmers; and

- Poor knowledge and practices in peat land water and environmental management.

Based on this assessment, a Farmer Field School program was developed with the goal to:

- *Develop the participant's ability to increase the quantity and quality of rubber produced and to gain higher farm prices for that rubber through improving the rubber value chain.*

The objectives of the Farmer Field School were to:

- Socialize the Farmer Field School and recruit Farmer Field School Participants;
- Identify the importance of rubber as a commodity to the community and farm families;
- Develop the Participants' understanding of the market chain and develop individual and group strategies to maximize the prices they receive for their rubber; and
- Develop the technical skills in tapping and post harvest processing in order to produce quality rubber that will garner higher prices from buyers.

The piloting of phase I of the Farmer Field School was conducted in two settlements, Mantangai Hulu and Tumbang Mangkutup. These settlements were chosen because they have a dependence on rubber. Mantangai Hulu is a large settlement in Block A with a large number of rubber farmers and community members exploiting the peat lands opened up by the ex-mega rice project. Tumbang Mangkutup is a distant and secluded settlement whose inhabitants have recently begun establishing rubber plots. The difference in size and location of each of these settlements would provide the pilot the opportunity to implement the Farmer Field School in two different environments.

The criteria for participating in the Rubber Farmer Field School were:

- Participants were ready to participate in the Farmer Field School voluntarily (without any form of payment);
- Participants owned and actively managed their rubber plots and were able to apply learnings from the Farmer Field School to their rubber;
- Participants were healthy in spirit and body;
- There should be equal distribution of women and men in the Farmer Field School if possible; and
- Participants were able to share the results and their learnings from the Farmer Field School with other farmers in the village.

21 participants signed up in Mantangai Hulu and 14 in Tumbang Mangkutup.

Farmer Field School activities began on May 18 and continued through July 15, 2010. In general, there was one meeting per week in each settlement. Below is a record of the actual dates the agenda were implemented in the two Farmer Field School sites.

	Mantangai Hulu	Tumbang Mangkutup
<i>Agenda</i>	<i>Date</i>	<i>Date</i>

Socialization	May 29	May 28
Recruitment Meeting	Jun 11	June 9
Group Awareness and Preparation for Market Chain Survey (I)	June 18	June 18
Market Chain Survey Visits	June 21 – 23	June 21 – 23
Post Study Visit Analysis of Market Chain and Marketing	July 2	July 2
Rubber Standards and Elements of Rubber Pricing	July 9	July 3
Managing Harvest and Post Harvest	July 13	July 12
Evaluation	July 15	July 13

Key issues identified in the participatory analysis conducted during the socialization and recruitment sessions were:

- Low prices;
- Low productivity;
- Pest and diseases
- Old rubber trees; and
- Fire and floods.

These issues were consistent with results of the needs assessment and the design of the Farmer Field School and demonstrated that the Farmer Field School would meet the felt needs of the participants and community.

In the group awareness sessions, the communities confirmed that rubber was an important component of incomes. Rubber provided daily incomes that are relatively steady and greater than alternatives. According to these groups, rubber production has remained relatively steady in the past five years and rubber prices rose over the same period, except for the downturn in 2009 due to the world economic crisis.

The participants in both groups understood the basics of the market chain for rubber in their region. They felt that the positive aspect of the market chain was that there was a ready market for rubber whenever farmers wanted to sell. The negative aspect of the market chain was lack of price information at the farm-gate and the dependence on traders to set the price.

In the market chain survey, the participants visited rubber factories in Kapuas and Banjarmasin. The collected data on pricing practices and factors, quality required by the factories, factors for producing good quality rubber, factory production and marketing, and how to improve communication and relations with factories.

From the data collected on the visit, the groups identified the opportunities for improving the prices farmers receive by improving quality (use recommended coagulant), selling directly to factories, accessing prices from factories, and conforming

to government regulations for pricing and quality. Based on this analysis, the groups developed strategies to improve the market chain by:

1. Practicing good coagulation of rubber latex using recommended practices and producing better quality rubber;
2. Socializing the benefits of good quality rubber at the community level;
3. Socializing factory and government regulations and practices regarding the quality and pricing of rubber;
4. Selling directly to the factory;
5. Forming village-based economic (rubber) cooperative;
6. Being proactive in seeking price information via SMS / phone;

The field visits to the factories clearly improved the participants understanding of the market chain and factors that influence pricing. The visits also created new and improved connections between farmers and factories.

The final sessions covered recommended techniques for tapping and processing rubber in the field in order to increase yields and improve rubber quality. In Tumbang Mangkutup, this information was new and greatly appreciated by the participants and other community members who came to attend the sessions. In Mantangai Hulu, previous extension efforts had introduced these techniques; nevertheless, additional community members joined the sessions as they value any opportunity to meet and learn from extension agents.

The final sessions of the Farmer Field School provided the participants the opportunity to create follow up plans. In general, these plans consisted of:

- Applying the recommended harvesting and processing methods;
- Developing the marketing of recommended coagulants in the villages;
- Developing groups and agreements to sell directly to the factories; and
- Testing the benefits of producing quality rubber and selling directly to factories
- Socializing government rules and regulations to village farmers

In the evaluations of the Farmer Field School, participants in both settlements identified key learnings to include improved understanding of the market chain and the factors that influence the price of rubber. Based on these understandings, the participants generated strategies for improving the prices they receive for their rubber. Particularly in Tumbang Mangkutup the sessions on harvesting and processing rubber introduced the recommended practices for the first time. In Mantangai Hulu, these sessions provided important review for many participants and new knowledge for others.

Recommendations

The pilot Farmer Field Schools demonstrated that a) the approach is appropriate for the region and b) that the content (improving the market chain and harvest and post harvest practices) are useful for the farmers in the region. Based on the experience with the pilot, the CE Team and Farmer Field School Consultant developed the following recommendations for continued development of Farmer Field Schools in the KFCP work area:

- Refine curriculum for improved cultural practices and rubber replanting and develop training sessions for the curriculum.
- Replicate the Farmer Field School Module on Tapping practices, post harvest processing and marketing and managing peat soils/forests in 10 KFCP settlements.
- Facilitate farmers and traders to ensure that recommended coagulants are available to farmers.
- Conduct farmer field schools (modules on cultivating rubber, replanting, and managing peat soils/forests) in 10 of the KFCP settlements during the appropriate season.
- As part of the Farmer Field School process develop farmer's groups that sell their rubber directly to factories.

One positive aspect of the Farmer Field School process is that it teaches farmers to analyze and take advantage of the market chain. This is a general skill that is valuable for any economic activity. In most of the villages, rubber is a good entry point; however, in two settlements in Block E, rubber is not a major source of income. Therefore, for these two settlements, it is recommended that a complete Farmer Field School process be undertaken in which the first step is to identify an appropriate commodity to develop. Based on current data from these settlements, fish is a major source of income and could become the topic of the farmer field school. Therefore the team recommends:

- Conduct, through the Farmer Field School process, market surveys and value chain analysis in 2 villages in Blok E to identify economically viable commodities (most likely fish based products such as fresh fish, dried fish, fish meal, etc.); and
- Implement Farmer Field School training to take advantage of realistic opportunities identified in the activity above.

Finally, the development of pilot Farmer Field Schools were rushed due to a number of factors (ranging from the socialization process to contract dates) resulting in the process being supported by key government personnel, but not integrated into government agency activities. For farmer field schools to be sustainable in the region, they will need to be integrated into government extension practices and funding (potentially from REDD funds). Therefore the group recommends:

- Design and implement a strategy for developing collaboration with local government extension services in the delivery of the Farmer Field Schools.

In order to implement Farmer Field Schools in all of the settlements in the KFCP work area, the CE Team recommends that there be a special team for the Farmer Field Schools that consists of

- One Farmer Field School Manager who coordinates the Farmer Field School Team, conducts Farmer Field Schools in 2 villages, and coordinate with CE Team Technical Officer and reports to and CE Team Specialist;
- Four Farmer Field School Trainers, each trainer covering 2 villages;

- One technical advisor in Farmer Field Schools and Training Skills who acts as part time overall supervisor; and
- Access to short term consulting and training support in Small Scale Rubber Production, Marketing and Value Chain Assessment, Fisheries and Fish Processing, and organizational change with government agencies.

Finally, there are a number of supporting activities that would enhance the impact of the Farmer Field Schools. These include:

- Establish nursery in four strategic locations to ensure access to quality rubber planting materials.
- Enhance access to financial services in all KFCP target villages through pilot VSLA (Village Saving and Loaning Association) groups
- Pilot and adopt instrument for measuring Dry Rubber Content (DRC) when it becomes available.
- Facilitate the development sustainable SMS system that delivers both local factory prices and common FOB prices to farmers and collectors in the value chain.
- Hold at least 3 meetings that bring together the rubber value chain stakeholders to review their vision for the value chain, progress toward that vision, and future plans to reach that vision.

These activities would increase the effectiveness of the Farmer Field Schools in taking advantage of more efficient market chains in the area.

Conclusion

The design of the Farmer Field School phase 1 appears to have met the needs and hopes of the participants. The discussions in the farmer field trip and on the survey trip regarding pricing, quality, and improving the market chain has resulted in the participants experimenting with the skills and concepts introduced by the Farmer Field Schools. These experiments have been designed by the participants themselves to demonstrate that adopting the recommended practices will in fact bring them higher incomes than their current practices. If these experiments do show that adopting new practices do bring higher incomes, it is extremely likely that these practices will be adopted not only by the Farmer Field School participants, but also by the other rubber farmers in the two settlements and the region.

Whatever the outcome of the experiment, the pilot phase of the Farmer Field School has been successful in increasing the participants' knowledge and understanding of the market chain, the needs of their buyers (the factories) and factors determining rubber prices. The Farmer Field Schools have also improved understanding and connections between the different players in the market chain, particularly between village collectors and farmers. These two groups are now talking about working together in partnerships to sell directly to the factories. The participant's also learned the recommended techniques for tapping and coagulating rubber; however, the adoption of these techniques will depend on the economic benefits they bring.

The implementation of the pilot was generally smooth and the facilitators did a good job working with unproven session designs. The experience of the facilitators will be invaluable for the follow on stage of any alternative livelihoods training programs.

Annexes:

- Annex 1: LAPORAN: SOSIALISASI SEKOLAH LAPANG PETANI DI DESA MANTANGAI HULU DAN TUMBANG MANGKUTUP
- Annex 2: LAPORAN HASIL KEGIATAN PERTEMUAN SEKOLAH LAPANG PERTEMUAN PEREKRUTAN DI DESA MANTANGAI HULU
- Annex 3: LAPORAN HASIL KEGIATAN PERTEMUAN SEKOLAH LAPANG PERTEMUAN PENYADARAN KELOMPOK DAN PERSIAPAN SURVEY RANTAI PASAR I DI DESA MANTANGAI HULU
- Annex 4: LAPORAN HASIL KEGIATAN PERTEMUAN SEKOLAH LAPANG ANALISIS RANTAI PASAR DAN PEMASARAN (SETELAH STUDI BANDING) DI DESA MANTANGAI HULU
- Annex 5: LAPORAN HASIL KEGIATAN PERTEMUAN SEKOLAH LAPANG STANDAR PENENTUAN MUTU BOKAR DAN DASAR PENGHITUNGAN HARGA BOKARDI DESA MANTANGAI HULU
- Annex 6: LAPORAN HASIL KEGIATAN PERTEMUAN SEKOLAH LAPANG PENANGANAN PASCA PANEN DAN PANEN DI DESA MANTANGAI HULU
- Annex 7: LAPORAN HASIL KEGIATAN PERTEMUAN SEKOLAH LAPANG MONITORING DAN EVALUASI DI DESA MANTANGAI HULU
- Annex 8: RENCANA TINDAK LANJUT SEKOLAH LAPANG PETANI Desa Mantangai Hulu
- Annex 9: LAPORAN HASIL KEGIATAN PERTEMUAN SEKOLAH LAPANG PERTEMUAN PEREKRUTAN DI DUSUN TUMBANG MANGKUTUP
- Annex 10: LAPORAN HASIL KEGIATAN PERTEMUAN SEKOLAH LAPANG PERTEMUAN PENYADARAN KELOMPOK DAN PERSIAPAN SURVEY RANTAI PASAR I DI DUSUN TUMBANG MANGKUTUP
- Annex 11: LAPORAN HASIL KEGIATAN PERTEMUAN SEKOLAH LAPANG SESI ANALISIS HASIL SURVEY RANTAI PASAR DI DUSUN TUMBANG MANGKUTUP
- Annex 12: LAPORAN HASIL KEGIATAN PERTEMUAN SEKOLAH LAPANG SESI STANDAR PENENTUAN MUTU BOKAR DAN DASAR PENGHITUNGAN HARGA KARET DI DUSUN TUMBANG MANGKUTUP
- Annex 13: LAPORAN HASIL KEGIATAN PERTEMUAN SEKOLAH LAPANG SESI PERSIAPAN PENYADAPAN, PANEN DAN PENANGANAN PASKA PANEN DI DUSUN TUMBANG MANGKUTUP
- Annex 14: LAPORAN HASIL KEGIATAN PERTEMUAN SEKOLAH LAPANG SESI EVALUASI DI DUSUN TUMBANG MANGKUTUP
- Annex 15: RENCANA TINDAK LANJUT PESERTA FFS DUSUN TUMBANG MANGKUTUP
- Annex 16: HASIL EVALUASI STUDY BANDING KE PABRIK KARET DI KAPUAS (KARYA SEJATI) DAN BANJARMASIN (INSAN BONAFIT & GAPKINDO)
- Annex 17: HASIL STUDY BANDING KE PABRIK KARET DI KAPUAS (KARYA SEJATI) DAN BANJARMASIN (INSAN BONAFIT & GAPKINDO) POINT PENTING HASIL STUDI BANDING (FASILITATOR)
- Annex 18: REPORT FFS KARET-LAHAN GAMBUT: PROJECT REDD- KALIMANTAN TENGAH OLEH BUDI CHRISTIANA