Working Paper

Agroforestry and Forestry in Sulawesi series:

Rapid market appraisal of agricultural, plantation and forestry commodities in South and Southeast Sulawesi

Aulia Perdana and James M Roshetko

World Agroforestry Centre
TRANSFORMING LIVES AND LANDSCAPES

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Abstract

This working paper identifies and explains the findings in agricultural, commodity crops and forestry commodities, which are important to the community at the AgFor project sites. The project sites are located in Bantaeng and Bulukumba districts, South Sulawesi, and Konawe and Kolaka districts in Southeast Sulawesi. The critical components highlighted in this working paper include: types of chosen products, products' value chain, involved market agents, the role of women in the value chain, the rising issues, and opportunities to overcome these issues.

Keywords: South Sulawesi, Southeast Sulawesi, marketing, appraisal, commodities

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1. Introduction

An intermediate outcome (objective) of the Agroforestry and Forestry in Sulawesi (AgFor) project is improved, sustainable and gender-equitable use of agroforestry and forestry products for livelihoods by poor women and men. A baseline study was conducted to identify the current condition, set priorities, and outline options that could be taken. Part of the baseline study addressed how to facilitate the establishment of small and medium enterprises, using as an indicator the percentage increase in the capacity of women and men to establish and manage natural resources-based enterprises.

This working paper identifies and explains the findings in agricultural, commodity crops and forestry commodities, which are important to the community at the AgFor project sites. The project sites are located in Bantaeng and Bulukumba districts, South Sulawesi, and Konawe and Kolaka districts in Southeast Sulawesi. The critical components highlighted in this working paper include: types of chosen products, products' value chain, involved market agents, the role of women in the value chain, the rising issues, and opportunities to overcome these issues.

This working paper is divided into several parts: the introduction which explains the survey activity background; the survey method which explains the method and validity of data collection; and the survey results, divided based on crop type. The last part reviews marketing problems in each province and recommendations for project intervention activities. All available information is based on researchers' observations on site, with references cited when appropriate. This working paper is based on the results of households, livelihoods, gender and market surveys implemented by various members of the AgFor team.

2. Survey Method

The survey used the Rapid Market Appraisal (RMA) method to identify and appraise the product flow from production to consumption, as well as opportunities and problems related to the commodity market system, and to understand the management and performance of the product marketing system. Snowball sampling was used to identify involved market agents, relying on the respondents to provide information about other individuals in their marketing networks. The appraisal started from farmers continuing to consumers at the district level. To ensure the validity of the acquired data, focus group discussions with farmers and traders were conducted at each survey site.

3. Survey Results

The marketing team, working in conjunction with the profitability team, undertook surveys in twelve villages and hamlets in Bantaeng and Bulukumba districts, South Sulawesi, and eleven villages in Konawe and Kolaka districts, Southeast Sulawesi, as described in the following tables:

Table 1. Marketing survey locations in South Sulawesi Province

District	Subdistrict	Village
Bantaeng	Tompobulu	Pattaneteang
		Bungeng
		Campaga
	Gantarangkeke	Bajiminasa
	Sinoa	Bonto Karaeng
	Bantaeng	Kayu Loe
	Morowa	Bonto Mate'ne
Bulukumba	Herlang	Karassing
		Tugondeng
	Kindang	Borong Rappoa
	Kajang	Tanatowa
	Bulukumpa	Balang Pesoang

Table 2. Marketing survey locations in Southeast Sulawesi Province

District	Subdistrict	Village
Konawe	Asinua	Ambodiaa
		Asinua Jaya
	Uepai	Anggawo
		Rawua
	Lambuya	Wanuahoa
	Besulutu	Lawonua
Kolaka	Poli-polia	Taosu
	Tirawuta	Tasahea
		Simbune
	Tinondo	Lamunde
	Ladongi	Ladongi

The AgFor project stresses the empowerment of women's role in livelihoods' improvement. The tables and graphs below show the comparison between numbers of women and men respondents in the marketing survey at each location.

Table 3. The gender comparison of marketing survey respondents in South Sulawesi Province

District	Subdistrict	Village	Men	Women
Bantaeng	Tompobulu	Pattaneteang	2	5
		Bungeng	1	1
		Campaga	7	2
	Gantarangkeke	Bajiminasa	3	1
	Sinoa	Bonto Karaeng	3	5
	Bantaeng	Kayu Loe	4	0
	Morowa	Bonto Mate'ne	2	3
Bulukumba	Herlang	Karassing	4	1
		Tugondeng	3	0
	Kindang	Borong Rappoa	1	1
	Kajang	Tanatowa	2	4
	Bulukumpa	Balang Pesoang	1	1
Total			33	24

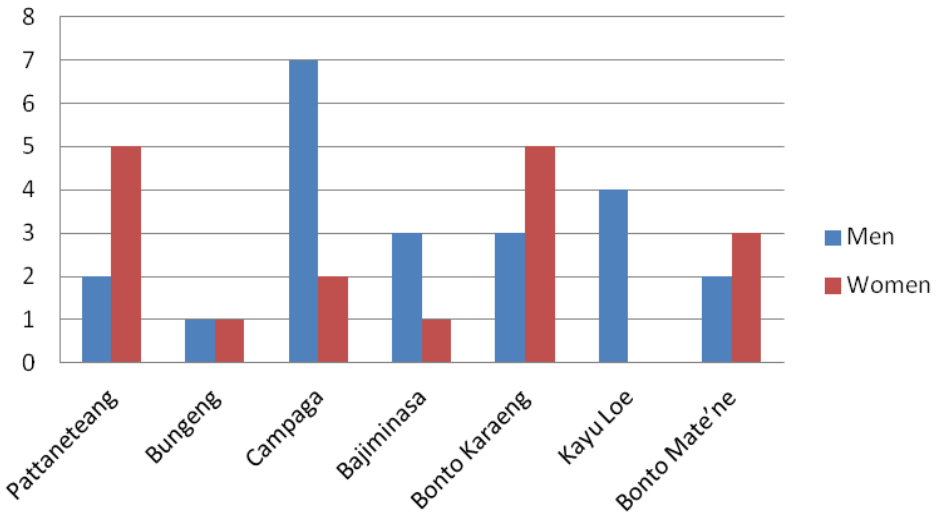

Figure 1. Marketing Survey: Comparison between Male and Female Respondents in Bantaeng district, South Sulawesi

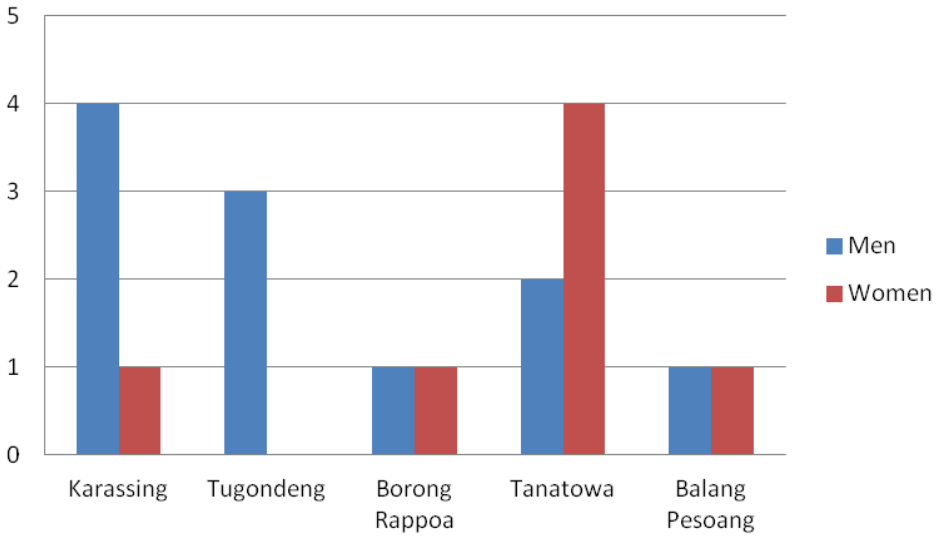

Figure 2. Marketing Survey: Comparison between Male and Female Respondents in Bulukumba district, South Sulawesi

Table 4. The gender comparison of marketing survey respondents in Southeast Sulawesi Province

District	Subdistrict	Village	Men	Women
Konawe	Asinua	Ambodiaa	0	1
		Asinua Jaya	1	3
	Uepai	Anggawo	1	1
		Rawua	2	0
	Lambuya	Wanuahoa	4	2
	Besulutu	Lawonua	1	1
Kolaka	Poli-polia	Taosu	1	0
	Tirawuta	Tasahea	2	0
		Simbune	1	1
	Tinondo	Lamunde	1	1
	Ladongi	Ladongi	2	1
Total			15	11

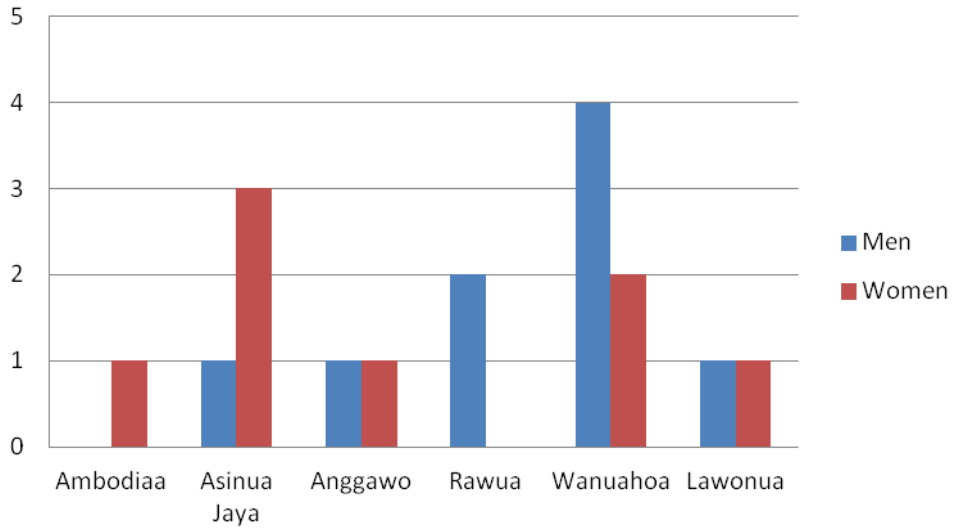

Figure 3. Marketing Survey: Comparison between Male and Female Respondents in Konawe district, Southeast Sulawesi

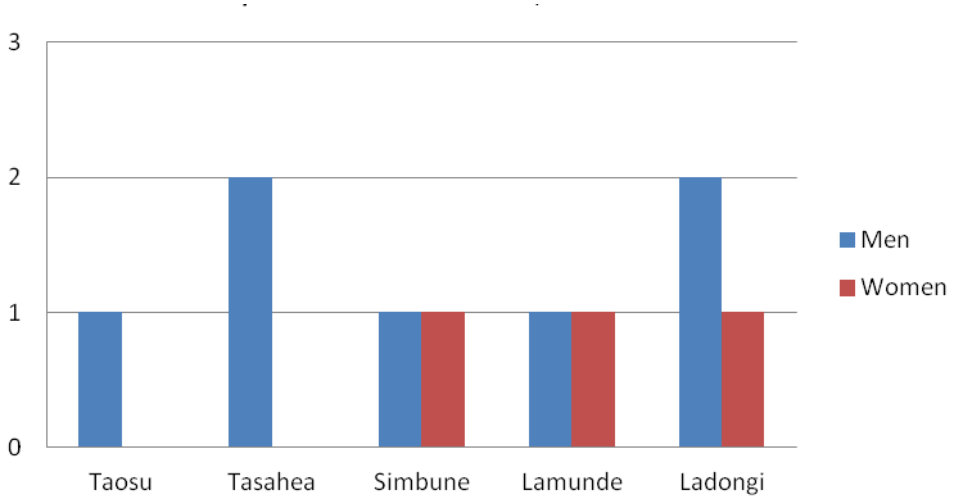

Figure 4. Marketing Survey: Comparison between Male and Female Respondents in Kolaka district, Southeast Sulawesi

Based on the completed survey, those agricultural and forestry products which have been planted by the community and also considered as important in contributing to household income are listed below.

Corn (*Zea mays*)

Survey results for western Bantaeng reveal that corn is an essential commodity for the communities, mainly in the Kayu Loe and Bonto Karaeng area, because this commodity brings a relatively significant income and is also used as food. The community currently produces hybrid corn that has a shorter production time.

After harvest, most of the corn is kept for food, while some is sold. Before sale some of the corn is first processed in a thresher, separating the corn from the cob, before being sun-dried. When dried, the processed corn is packed in sacks and sold. The unprocessed corn cobs are normally sun-dried and then packed in sacks and sold. All farmers sell their corn through collectors, who go house to house to buy the corn stock. Famers and collectors negotiate a price before payment is made and the collector takes the corn sacks to be reprocessed and sold to large-scale traders. Collectors normally repeat the drying and quality selection process before they sell their corn cobs to large-scale traders. Large-scale traders will not process the products, except for maintaining the product quality by separating and discarding rotten corn.

Figure 5. The corn product flow diagram

Potatoes (*Solanum tuberosum*), shallots (*Allium cepa L.*) and other root crops

These agricultural products can be found in large quantities in northern Bantaeng district, particularly in Bonto Karaeng and Kayu Loe. These products have a similar marketing chain. After harvesting the crop, farmers select the best-quality products for sale to local and provincial markets. Unsold commodities are consumed by the household. The product flow of these local commodities is shown in the diagram below.

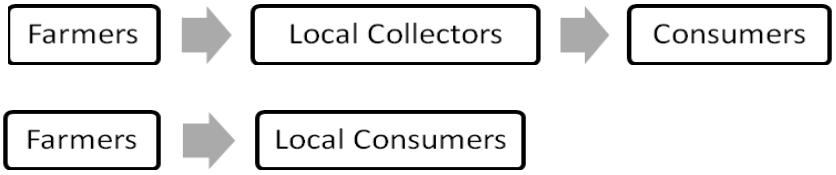

Figure 6. The product flow of these local commodities diagram

Coffee (*Coffea robusta*)

Coffee was identified as important at almost every survey site. It is the main product in Campaga village, Bantaeng district. In other areas in Kolaka and Konawe districts, coffee is produced in lower volume.

Before the coffee is sold, the farmers will sun-dry and then place it in sacks. Coffee is sold to collectors. Collectors go from house to house to buy coffee from farmers at an agreed price. Farmers usually acknowledge the price from collectors, not directly from the market. Collectors usually do not add value to the coffee beans. They will directly sell the beans to large-scale traders, either in the nearest town, or in Makassar. From Makassar, the coffee beans are selected based on quality and then sent to coffee-processing plants in other parts of Sulawesi or Java.

Figure 7. The coffee product flow diagram in Sulawesi

Clove (*Syzygium aromaticum*)

This crop can be found in upper Bantaeng district, such as in Tompobulu subdistrict and its surroundings, all the way to the east to the border with Bulukumba district, at Borong Rappoa village. Farmers in Bungeng informed the survey team that cloves are harvested at a very precise stage (brilliant red calyx and presence of petals) in order to get the correct quality of cloves. The best stage normally occurring in August. The fresh cloves are then separated from the debris and sun-dried on a cement area or on mats for 2–3 days. The cloves are then cooled before being placed in a dry sack. Farmers do not actively participate in the marketing process; they usually wait for local collectors to arrive and offer a price. Farmers then negotiate and sell to the highest bidder. Women farmers usually conduct the selling and negotiating process.

On average, a young tree of seven years will yield up to 2 kg of dried cloves. A tree of more than 20 years can yield up to 70 kg of dried cloves. Clove farmers accepted the prices offered by the local collectors. They do not search for information on current market price, although they do search for information regarding clove quality. Complete cloves with petals attached are considered the best and valued at a higher price.

Dried leaves are also collected for clove leaf oil processing. Collectors collect leaves prepared by farmers in sacks or by raking leaves from the farmer's clove garden. Usually collectors gather 3 kg per household and process them in a privately owned refinery.

Figure 8. The Clove product flow diagram

The sorting process for better selling quality is done at the farmers' level. Local collectors and provincial traders might sort the product again before sale to factories.

Figure 9. The Clove product flow diagram

Cocoa (*Theobroma cacao*)

Sulawesi has the greatest area of cocoa production in Indonesia. The government, through the Department of Agriculture, implemented a national cocoa movement that prioritised Sulawesi as the centre of Indonesia's cocoa production. This reflects the importance of the commodity to the national and local economies. Cocoa has become the main source of livelihood for communities in South and Southeast Sulawesi, including Campaga, Balang Pesoang and Kayu Loe in Bantaeng district, South Sulawesi, and Anggawo, Lawonua, Wonuahoa, Ambondia, Lamunde, Simbune, and Taosu in Konawe and Kolaka district in Southeast Sulawesi.

The marketing system for cocoa is similar to that of coffee. Cocoa farmers sun-dry their cocoa beans for 2–3 days and then place them in sacks to be sold. The dry cocoa beans are sold to collectors who go house to house buying cocoa beans from the farmers at an agreed price. Farmers usually accept the price from the collectors. Only a few farmers interviewed make price comparisons by visiting city markets or contacting relatives in different districts.

Figure 10. The Cacao product flow diagram

Fruits

Fruits identified in this survey, in approximate order of income importance to income, were rambutan (*Nephelium lappaceum*), langsat (*Lansium domesticum*), durian (*Durio zibethinus*), mangosteen (*Garcinia mangostana*), cashew (*Anacaddium occidentale*) , banana (*Musa paradisiaca*) and avocado (*Persea americana*). Few fruits produced on farms are consumed by households, the majority are sold, accounting for up to a fifth of the total livelihood of communities. Based on observation, people

sell tree-ripened fruits from their houses with minimal product handling. The fruits are sold by piece for durians and avocados, and by various units for others species. In South Sulawesi fruit production and sales are important are Balang Pesoang in Bantaeng district and Borongrappoa in Bulukumba district. In Southeast Sulawesi, various fruits are sold in almost all project sites.

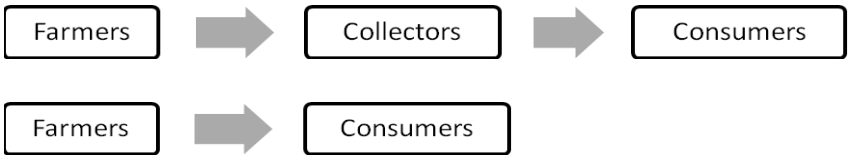

Figure 11. The fruit product flow diagram

Timber

Karassing, Tugondeng and Tanatowa village in Bulukumba district, and Anggawo and Asinua Jaya village in Konawe district have potential as suppliers of timber that support community livelihood. The available timbers are, in order of importance, mahogany (*Swietenia macrophylla*), gmelina (*Gmelina arborea*), teak (*Tectona grandis*), sengon (*Paraserianthes falcataria*), vitex (*Vitex cofassus*), and suren (*Toona sinensis*). Most of the timber is used for house building, furniture and boats. The local names for manufactured timbers are 'kolapi', 'kayu merah' and 'ponto'. Asinua Jaya community uses 'kayu nona' (*Metrosideros petiolata*) to make charcoal.

Trees in home gardens are cut down according to existing regulations, such as for timber that will be sold or transported within the district a permit from the village chief is sufficient. However, if the timber is to be transported out of the district or province, the permits required are more complicated, with consequential cost implications. Similar to timber sales in Java, timber traders are burdened by transaction fees because of unclear regulations on timber distribution, inviting the creation of 'extra-legal fees' (Perdana et al, 2012). This affects the farmers' bargaining power. Good quality timber can be valued low by traders because of the uncertainty of transaction costs.

Some sawmills were observed in the project area, but their conditions were not adequate to process timber in large quantities, so timber traders send their timber to other areas, such as Bonto Bahari or Herlang in Bulukumba district, that has an existing boat building industry.

Similar to that in Java (Perdana et al, 2012), the flow of the timber trade in the project sites is shown in the diagram below.

Figure 12. The timber product flow diagram

Candlenut (*Aleurites moluccana*)

Candlenut is the leading product at all project sites in Bantaeng and Bulukumba districts. Harvested once a year, this product can provide significant income for households. The marketing system is simple. Farmers usually sell peeled candlenuts to collectors, who resell it to large-scale traders. Traders then pack the candlenuts in shipping-standard sacks for transport to various areas in Indonesia. Candlenut product flow is explained in the diagram below.

Figure 13. The candlenut product flow diagram

Coconut and copra (*Cocos nucifera*), coconut sugar

Based on on-site observation, coconut trees are present in almost every backyard and the fruit is used for food by the community. Tugondeng village, Bulukumba district, is the centre for coconut products in the form of coconut sugar. Meanwhile, Tasahea village in Kolaka district produces copra. Almost every village in the AgFor project sells whole coconuts for food. The product flow of whole coconuts is very simple because it does not need added value. People producing whole coconuts are not concerned with the sale price as long as their trees are still productive and reliable for their livelihood.

Figure 14. The candlenut product flow diagram

Farmers producing coconut sugar have added significant value to their product before they sell it, by cooking the sugar and hardening it in a cylinder or block shape of a certain size. Coconut sugar producers sell their products to several types of traders, such as local market traders, large traders and even directly to supermarkets. All market and large traders take their supply to Tugondeng based on an agreed order and price before they pick up the product.

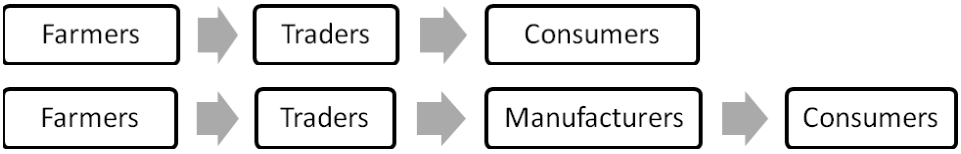

Figure 15. The coconut sugar product flow diagram

Farmers producing copra sun-dry the coconut wedges for a few days and wait for collectors to purchase their product. The price is often set by collectors. After agreeing on a price, sacked copra will be sent to large-scale traders in Makassar, and shipped to factories and used as the basic material for cooking oil and other foods.

Figure 16. The copra product flow diagram

Sago (*Metroxylan sago*)

Based on early observation, sago is a major food staple for people in the project area in Southeast Sulawesi, second only to rice. The survey revealed that areas around Asinua Jaya, Konawe district, are the center of sago production. Sago trees are harvested from the swamps around forests and floated across the river to the villages for extraction. The extraction is done in groups and yield is shared based on an agreement between group members. The sago is then sold to collectors and taken to the market or factories, as shown in the diagram below.

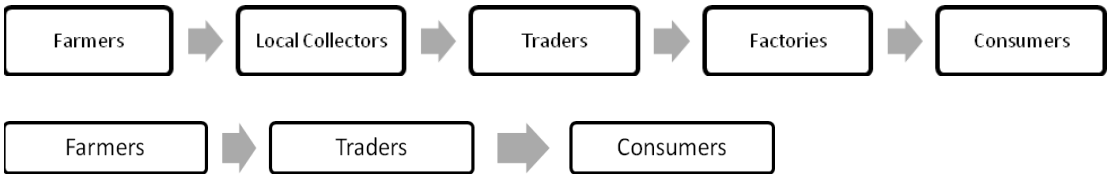

Figure 17. The sago product flow diagram

Patchouli (*Pogostemon cablin*)

Patchouli cultivation spreaded to the study area in 2010. Many people sell patchouli in Kolaka district. Communities in Konawe district have seized the opportunity to produce patchouli as well, with some already harvesting. Patchouli farmers at the moment only rely on collectors who go house to house to purchase the product. Harvested patchouli is usually sun-dried in the yard for two days and then cooled before being placed in sacks. Collectors often set the price and do not add value to the product. They resell the product to patchouli refineries. After the product is refined, it will be sold to Surabaya for further reprocessing.

Figure 18. The patchouli product flow diagram

4. Marketing Problems and Recommendations

A ubiquitous problem that emerged at the farmers' level is unpredictable price fluctuations. The farmers suspected that the prices are controlled by the collectors, but collectors also experience difficulties with price fluctuations. This is caused by factors beyond the control of either party, high supplies of corn at downstream industries, for example at the corn flour factories in Surabaya. Such excess stocks decrease the buying price at the collector and farmers levels. Similarly, seasonal fluctuations in harvest volume, cause the price to sink or skyrocket.

The problem faced by the potato, shallot and tuber farmers is the scarce supply of high quality planting material, which may cause them fail to maintain or achieve the expected market quality with each harvest.

Coffee, like other leading commodities in Sulawesi, has an inefficient marketing system, including insufficient value adding, resulting in a weak negotiating position for farmers and low sales. Coffee trees bear fruit for a relatively long time and support people's livelihoods over that period. To achieve full value to farmers, the commodity requires appropriate post-harvest processing, such as adding value by drying, roasting, packing and grinding. In this case, capacity-building training on product processing and marketing strategies is needed.

The rising problems related to clove and candlenut come from factors beyond marketing, such as weather changes, which affect the harvest pattern and schedule. Clove farmers should be introduced to the concept of clove agroforesty systems, that produce multiple products, to diversify their production and reduce their risks.

Cocoa farmers have difficulties determining the price because it is strongly controlled by collectors. This survey also found a lack of cocoa value added processing by the farmers, resulting in decreasing prices. Another problem beyond marketing issues comes from pod borer pests that decrease the fruit quality, causing it to rot before harvest. Sulawesi cocoa beans are in high demand, but an improvement of the post-harvest quality is needed, such as adding value by the drying, fermentation, packing and other processes. As with coffee, if cocoa farmers sell products with a higher sales value, the traders' buying price will also increase. In this case, capacity-building training to increase product marketing strategies and introducing group marketing as an alternative strategy to strengthen negotiating position are needed. Cocoa farmers should also be introduced to a cocoa agroforestation concept to diversify their cash crops and reduce risks. Further research is required in this area. It is important to note that the government, research and industry specialists have not yet dealt seriously with the cocoa pest problem.

Based on observation, fruits have the potential to become the main source of the communities' livelihoods. There are many value added opportunities to make fruit products, that may be limited only be the creativity of communities and individuals. Packaging can also be made more attractive to increase the sales appeal and move to upscale market sectors. The project can also help the community who harvests their fruit, by creating a market closer to the fruit source. Big supermarkets in Makassar or even in Surabaya can be invited to develop the fruit potential at the project site. The first step in such a process is to increase the community's capacity to add value to fruit products.

Asinua Jaya project site in Konawe district has the worst road access compared in the project area. It needs serious attention. Women interviewed in this survey described how poor road access made it

difficult to sell quality bananas thatwere in high demand in what should be accessible markets. Much of banana harvest is wasted. As with the case of bananas in West Java (Tukan et al 2006), if farmers produce a quality products traders will increase the price they offer. Capacity-building training on product processing and marketing strategies is needed.

For timber products, considering the price is often set by traders, the AgFor project can develop a collective marketing system to increase economies of scale and thus farmers' negotiating position . In the long term, the local timber industry can be developed to avoid the regulatory disincentives, which adds to the transaction cost and uncertainty.

Sale price is the main problem for coconut and copra producers. This can be managed by bringing the market closer to the farmers. If the retail and manufacturing sector can be brought closer to the raw material sources, transaction costs will be reduced, and if the farmers can comply with desired market standards, the sale price will increase.

Similar to coconut farmers, sago farmers face a sale price problem. Like many other products, sago farmers do not possess the skill to add to increase the value of sago. Based on observation, sago farmers only sell wet sago packed in sacks, which are put on display in front of their houses to attract the collectors' attention. The project can provide training on how to add value to the sago product, which later can be sold in different forms with higher value.

Similar to other products, patchouli has a problem with price, which tends to fluctuate drastically. Additionally, information on how to harvest and refine patchouli to produce a higher-quality product is not widely known in the project area. The AgFor project could launch training on patchouli production and processing as a means of increasing farmers' livelihoods.

5. Conclusion

Smallholders' markets and marketing systems in South and Southeast Sulawesi are similar to those in other parts of Indonesia and can be characterized as practically monopsonistic, where collectors and traders dictate terms to their suppliers–the smallholder producers. Those smallholders have a low sense of value creation by not understanding what traders and consumers really need, and basically selling what grows instead of producing what sells. To fully engage in market opportunities it is imperative for smallholders to understand their target market and develop active marketing strategies.

Results from the study demonstrate some obstacles, but there are opportunities for farmers to access more lucrative value chains. Such as increasing their awareness of market chains and market specifications, engaging in post-harvest processing to increase the value of the commodity, and expanding their role in the value chain. Key factors to address including improving smallholders' crop management to produce products with higher potential value, the barriers faced by new market participants, the bargaining power of buyers (i.e. traders or collectors), possible substitutes to products in related industry, and competition among smallholder producers.

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27. Social and Environmental Trade-Offs in Tree Species Selection: A Methodology for Identifying Niche Incompatibilities in Agroforestry *[Appears as AHI Working Paper no. 9]*
28. Managing tradeoffs in agroforestry: From conflict to collaboration in natural resource management. *[Appears as AHI Working Paper no. 10]*
29. Essai d'analyse de la prise en compte des systemes agroforestiers pa les legislations forestieres au Sahel: Cas du Burkina Faso, du Mali, du Niger et du Senegal.
30. Etat de la recherche agroforestière au Rwanda etude bibliographique, période 1987-2003

2007

31. Science and technological innovations for improving soil fertility and management in Africa: A report for NEPAD's Science and Technology Forum.
32. Compensation and rewards for environmental services.
33. Latin American regional workshop report compensation.
34. Asia regional workshop on compensation ecosystem services.
35. Report of African regional workshop on compensation ecosystem services.
36. Exploring the inter-linkages among and between compensation and rewards for ecosystem services CRES and human well-being
37. Criteria and indicators for environmental service compensation and reward mechanisms: realistic, voluntary, conditional and pro-poor
38. The conditions for effective mechanisms of compensation and rewards for environmental services.
39. Organization and governance for fostering Pro-Poor Compensation for Environmental Services.
40. How important are different types of compensation and reward mechanisms shaping poverty and ecosystem services across Africa, Asia & Latin America over the Next two decades?
41. Risk mitigation in contract farming: The case of poultry, cotton, woodfuel and cereals in East Africa.
42. The RELMA savings and credit experiences: Sowing the seed of sustainability
43. Yatich J., Policy and institutional context for NRM in Kenya: Challenges and opportunities for Landcare.
44. Nina-Nina Adoung Nasional di So! Field test of rapid land tenure assessment (RATA) in the Batang Toru Watershed, North Sumatera.
45. Is Hutan Tanaman Rakyat a new paradigm in community based tree planting in Indonesia?
46. Socio-Economic aspects of brackish water aquaculture (*Tambak*) production in Nanggroe Aceh Darrusalam.
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51. Buyers Perspective on Environmental Services (ES) and Commoditization as an approach to liberate ES markets in the Philippines.
52. Towards Towards community-driven conservation in southwest China: Reconciling state and local perceptions.
53. Biofuels in China: An Analysis of the Opportunities and Challenges of Jatropha curcas in Southwest China.
54. Jatropha curcas biodiesel production in Kenya: Economics and potential value chain development for smallholder farmers
55. Livelihoods and Forest Resources in Aceh and Nias for a Sustainable Forest Resource Management and Economic Progress
56. Agroforestry on the interface of Orangutan Conservation and Sustainable Livelihoods in Batang Toru, North Sumatra.
57. Assessing Hydrological Situation of Kapuas Hulu Basin, Kapuas Hulu Regency, West Kalimantan.
58. Assessing the Hydrological Situation of Talau Watershed, Belu Regency, East Nusa Tenggara.
59. Kajian Kondisi Hidrologis DAS Talau, Kabupaten Belu, Nusa Tenggara Timur.
60. Kajian Kondisi Hidrologis DAS Kapuas Hulu, Kabupaten Kapuas Hulu, Kalimantan Barat.
61. Lessons learned from community capacity building activities to support agroforest as sustainable economic alternatives in Batang Toru orang utan habitat conservation program (Martini, Endri et al.)

62. Mainstreaming Climate Change in the Philippines.
63. A Conjoint Analysis of Farmer Preferences for Community Forestry Contracts in the Sumber Jaya Watershed, Indonesia.
64. The highlands: a shared water tower in a changing climate and changing Asia
65. Eco-Certification: Can It Deliver Conservation and Development in the Tropics.
66. Designing ecological and biodiversity sampling strategies. Towards mainstreaming climate change in grassland management.
67. Towards mainstreaming climate change in grassland management policies and practices on the Tibetan Plateau
68. An Assessment of the Potential for Carbon Finance in Rangelands
69 ECA Trade-offs Among Ecosystem Services in the Lake Victoria Basin.
69. The last remnants of mega biodiversity in West Java and Banten: an in-depth exploration of RaTA (Rapid Land Tenure Assessment) in Mount Halimun-Salak National Park Indonesia
70. Le business plan d'une petite entreprise rurale de production et de commercialisation des plants des arbres locaux. Cas de quatre pépinières rurales au Cameroun.
71. Les unités de transformation des produits forestiers non ligneux alimentaires au Cameroun. Diagnostic technique et stratégie de développement Honoré Tabuna et Ingratia Kayitavu.
72. Les exportateurs camerounais de safou (Dacryodes edulis) sur le marché sous régional et international. Profil, fonctionnement et stratégies de développement.
73. Impact of the Southeast Asian Network for Agroforestry Education (SEANAFE) on agroforestry education capacity.
74. Setting landscape conservation targets and promoting them through compatible land use in the Philippines.
75. Review of methods for researching multistrata systems.
76. Study on economic viability of *Jatropha curcas* L. plantations in Northern Tanzania assessing farmers' prospects via cost-benefit analysis
77. Cooperation in Agroforestry between Ministry of Forestry of Indonesia and International Center for Research in Agroforestry
78. "China's bioenergy future. an analysis through the Lens if Yunnan Province
79. Land tenure and agricultural productivity in Africa: A comparative analysis of the economics literature and recent policy strategies and reforms
80. Boundary organizations, objects and agents: linking knowledge with action in agroforestry watersheds
81. Reducing emissions from deforestation and forest degradation (REDD) in Indonesia: options and challenges for fair and efficient payment distribution mechanisms

2009

82. Mainstreaming climate change into agricultural education: challenges and perspectives
83. Challenging conventional mindsets and disconnects in conservation: the emerging role of eco-agriculture in Kenya's landscape mosaics
84. Lesson learned RATA garut dan bengkunat: suatu upaya membedah kebijakan pelepasan kawasan hutan dan redistribusi tanah bekas kawasan hutan
85. The emergence of forest land redistribution in Indonesia
86. Commercial opportunities for fruit in Malawi
87. Status of fruit production processing and marketing in Malawi
88. Fraud in tree science
89. Trees on farm: analysis of global extent and geographical patterns of agroforestry
90. The springs of Nyando: water, social organization and livelihoods in Western Kenya
91. Building capacity toward region-wide curriculum and teaching materials development in agroforestry education in Southeast Asia

92. Overview of biomass energy technology in rural Yunnan (Chinese – English abstract)
93. A pro-growth pathway for reducing net GHG emissions in China
94. Analysis of local livelihoods from past to present in the central Kalimantan Ex-Mega Rice Project area
95. Constraints and options to enhancing production of high quality feeds in dairy production in Kenya, Uganda and Rwanda

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96. Agroforestry education in the Philippines: status report from the Southeast Asian Network for Agroforestry Education (SEANAFE)
97. Economic viability of Jatropha curcas L. plantations in Northern Tanzania- assessing farmers' prospects via cost-benefit analysis.
98. Hot spot of emission and confusion: land tenure insecurity, contested policies and competing claims in the central Kalimantan Ex-Mega Rice Project area
99. Agroforestry competences and human resources needs in the Philippines
100. CES/COS/CIS paradigms for compensation and rewards to enhance environmental Services
101. Case study approach to region-wide curriculum and teaching materials development in agroforestry education in Southeast Asia
102. Stewardship agreement to reduce emissions from deforestation and degradation (REDD): Lubuk Beringin's Hutan Desa as the first village forest in Indonesia
103. Landscape dynamics over time and space from ecological perspective
104. Komoditisasi atau koinvestasi jasa lingkungan: skema imbal jasa lingkungan program peduli sungai di DAS Way Besai, Lampung, Indonesia
105. Improving smallholders' rubber quality in Lubuk Beringin, Bungo district, Jambi province, Indonesia: an initial analysis of the financial and social benefits
106. Rapid Carbon Stock Appraisal (RACSA) in Kalahan, Nueva Vizcaya, Philippines
107. Tree domestication by ICRAF and partners in the Peruvian Amazon: lessons learned and future prospects in the domain of the Amazon Initiative eco-regional program
108. Memorias del Taller Nacional: "Iniciativas para Reducir la Deforestación en la region Andino - Amazónica", 09 de Abril del 2010. Proyecto REALU Peru
109. Percepciones sobre la Equidad y Eficiencia en la cadena de valor de REDD en Perú – Reporte de Talleres en Ucayali, San Martín y Loreto, 2009. Proyecto REALU-Perú.
110. Reducción de emisiones de todos los Usos del Suelo. Reporte del Proyecto REALU Perú Fase 1
111. Programa Alternativas a la Tumba-y-Quema (ASB) en el Perú. Informe Resumen y Síntesis de la Fase II. 2da. versión revisada
112. Estudio de las cadenas de abastecimiento de germoplasma forestal en la amazonía Boliviana
113. Biodiesel in the Amazon
114. Estudio de mercado de semillas forestales en la amazonía Colombiana
115. Estudio de las cadenas de abastecimiento de germoplasma forestal en Ecuador
116. How can systems thinking, social capital and social network analysis help programs achieve impact at scale?
117. Energy policies, forests and local communities in the Ucayali Region, Peruvian Amazon
118. NTFPs as a Source of Livelihood Diversification for Local Communities in the Batang Toru Orangutan Conservation Program
119. Studi Biodiversitas: Apakah agroforestry mampu mengkonservasi keanekaragaman hayati di DAS Konto?
120. Estimasi Karbon Tersimpan di Lahan-lahan Pertanian di DAS Konto, Jawa Timur
121. Implementasi Kaji Cepat Hidrologi (RHA) di Hulu DAS Brantas, Jawa Timur.

122. Kaji Cepat Hidrologi di Daerah Aliran Sungai Krueng Peusangan, NAD,Sumatra
123. A Study of Rapid Hydrological Appraisal in the Krueng Peusangan Watershed, NAD, Sumatra.

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124. An Assessment of farm timber value chains in Mt Kenya area, Kenya
125. A Comparative financial analysis of current land use systems and implications for the adoption of improved agroforestry in the East Usambaras, Tanzania
126. Agricultural monitoring and evaluation systems
127. Challenges and opportunities for collaborative landscape governance in the East Usambara Mountains, Tanzania
128. Transforming Knowledge to Enhance Integrated Natural Resource Management Research, Development and Advocacy in the Highlands of Eastern Africa
129. Carbon-forestry projects in the Philippines: potential and challenges The Mt Kitanglad Range forest-carbon development
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138. Does value chain development contribute to rural poverty reduction? Evidence of asset building by smallholder coffee producers in Nicaragua
139. Potential for biofuel feedstock in Kenya
140. Impact of fertilizer trees on maize production and food security in six districts of Malawi.

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141. Fortalecimiento de capacidades para la gestión del Santuario Nacional Pampa Hermosa: Construyendo las bases para un manejo adaptativo para el desarrollo local. Memorias del Proyect
142. Understanding rural institutional strengthening: A cross-level policy and institutional framework for sustainable development in Kenya
143. Climate change vulnerability of agroforestry
144. Rapid assesment of the inner Niger delta of Mali
145. Designing an incentive program to reduce on-farm deforestationin the East Usambara Mountains, Tanzania
146. Extent of adoption of conservation agriculture and agroforestry in Africa: the case of Tanzania, Kenya, Ghana, and Zambia
147. Policy incentives for scaling up conservation agriculture with trees in Africa: the case of Tanzania, Kenya, Ghana and Zambia

148. Commoditized or co-invested environmental services? Rewards for environmental services scheme: River Care program Way Besai watershed, Lampung, Indonesia.
149. Assessment of the headwaters of the Blue Nile in Ethiopia.
150. Assessment of the uThukela Watershed, Kwazaulu.
151. Assessment of the Oum Zessar Watershed of Tunisia.
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