

PAPER NAME

**Farmers Cassava motivation to change p
artnership.pdf**

AUTHOR

Tubagus Hasanuddin

WORD COUNT

3025 Words

CHARACTER COUNT

17019 Characters

PAGE COUNT

14 Pages

FILE SIZE

1.9MB

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REPORT DATE

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ISBN 978-602-0860-26-8



**PROCEEDING INTERNATIONAL CONFERENCE ON CASSAVA
(Sustainable Management of Renewable Resources in Tropics)
Bandar Lampung, November 23rd - 24th 2017**



« Editors : »

Erwin Yuliadi
M. Syamsoel Hadi
Kukuh Setiawan



**LPPM UNIVERSITAS LAMPUNG
BANDAR LAMPUNG
DECEMBER 2018**



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Published as Collaboration with:

LPPM University of Lampung – Sungai Budi Group

December 2018

Title

Proceeding International Conference on Cassava (Sustainable Management on Renewable Resources in Tropics)

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Jl. Soemantri Brojonegoro No. 1 Bandar Lampung 35145

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PREFACE

This proceeding consists of the papers presented in international seminar on cassava conducted by University of Lampung on November 23, 2017. As the university located in Lampung Province, University of Lampung realized that Lampung as the biggest producer of cassava in Indonesia has many problems concerning how to increase the poverty of farmers through cassava. There are two factors related to increasing poverty, namely upstream technology and downstream technology of cassava. Upstream technology is how to increase productivity per hectare and how to get the best quality of harvested tuber. While, downstream technology is the technology developed to fulfill people's need on cassava based products. Globally those products is demanded more as the increasing population. Therefore, Lampung needs many innovations about cassava since the development of cassava-based economics in Lampung is quite significant to influence the whole economics development. To get such important technologies, University of Lampung conducted an international seminar on cassava by inviting keynote speakers from the countries such as Thailand and Japan that have best experiences on upstream technology and downstream technology of cassava, beside some Indonesian scientists sharing their research.

After conducting such a seminar, hopefully this proceeding will be able to inspire all parties coming from government, scientists, industries, and practices. The proceeding of a seminar is very useful to bring the papers into the usage of technology. If the results actually need to be developed further, the scientists can carry out perfecting research in the next seminar. Therefore, the seminar on cassava nationally or internationally will strengthen the role of technology in fastening the growth of cassava-based economics.

University of Lampung would like to appreciate the dedication of the staffs in Research and Community Service Institution of University of Lampung working hard to finish the publication of this proceeding. We also would like to address our appreciation to Sungai Budi Group, the honorable Keynotes Speakers from Japan and Thailand for their support to the seminar.

Rector,

Prof. Dr. Ir. Hasriadi Mat Akin, M.P.

PREFACE

As the committee of The International Seminar on Cassava conducted in University of Lampung, we thanked you to all of the participants who has actively participated in that seminar. The participants consisted of researchers, students, staffs of cassava-based industries, and government officials of Lampung Province. The number of participants noted was 97 researchers and government officials and 33 students. The participants who submitted abstracts as the participants presenting their papers in the seminar were 35 people. After receiving the full papers, the committees reviewed all papers. As it was planned, if reviewers decided that the paper fulfilled the quality demanded by the journal, the paper would be forwarded to the international journal. Unfortunately, reviewers decided that there was no papers with proper in terms of subjects of research and grammar. Moreover, the committee faced the fact that not all participants sent their full papers, some of the participants chose to publish their papers in other journal. That was why this proceeding consisted of only 14 paper and took quite a long time to publish.

The committee would like to thank Rector of University of Lampung, the Head of Research and Community Service Institute of University of Lampung, Sungai Budi Group, and other institution that have support the publication of this proceeding.

Chairman,

Dr. Erwin Yuliadi, M.Sc.

PREFACE

University of Lampung is facing challenges to make cassava as potential commodity to increase the poverty of the people. As it is well known, cassava has beneficial use to fulfill daily needs of the people as food, feed, fiber, and pharmacy. The demand of cassava as raw material of those needs will increase as much as the increase of population. The problems appear related to productivity of cassava in Indonesia which is relatively low and low performance of downstream technology. As a research institution, LPPM (Institution of Research and Community Service) of the University of Lampung should do the action how to improve the upstream technology that can increase the productivity and quality of harvest of cassava and to improve and diversify downstream technology that can increase the demand of cassava as raw material of industry. Only then the income of farmers and cassava-based industry can be increased to improve the poverty.

One activity that can fasten to solve the problems is to conduct an international seminar on cassava. Hopefully through the seminar there will emerge some papers as results of researches on cassava that have great value to improve technologies on cassava. To make the seminar qualified, LPPM of University of Lampung invited keynote speakers from Thailand as greatest cassava exporter country in the world and from Japan as the country popularly with downstream technology.

After the seminar finished, the submitted papers were reviewed according to the quality demand of a paper that appropriate to be submitted to international journal. After working sometime, the papers finally can be arranged in form of proceeding. Beside the papers in this proceeding there are some papers that are not included because the authors chose to publish their papers in other journals.

LPPM of University of Lampung would like to thank to every party who had actively participated in the seminar and in the process of arranging this proceeding.

Chairman,

Warsono, Ph.D

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FARMERS CASSAVA MOTIVATION TO CHANGE PARTNERSHIP (CASE OF FARMERS SUGARCANE AND CASSAVA PARTNERSHIP)

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ABSTRACT

Partnerships in farming between companies and farmers are common. The purpose of this research to know 1) farmer income of Cassava and Sugarcane, 2) comparison income of farmer cassava and sugarcane, and 3) factors related to the change partnership of farmers. The location of the research was selected in Lampung Tengah District by purposive. The number of respondents was 47 people, and data collection was done through interview technique. Data analysis was done by using Binary Regression Logistic. The study was conducted from December 2015 to May 2016. The results showed: 1) farmer income of cassava farming is Rp.13.282.985,00 / ha / season, and farmer income of sugarcane farming is Rp. 11.403.828,00 / ha / season, 2) R/C cassava farming partnership is 2,15 and R/C sugarcane farming is 2,13, and 3) factors related to change from sugarcane partnership to cassava partnership were capital aid in partnership, partnership requirements, farming income share system, farm income, and production materials.

Key word: cassava, farmer motivation, partnership

INTRODUCTION

The role of agricultural sector in Indonesia's development is very important also for Lampung Province. Contribution of agriculture sector in Lampung Province economy is 31,86% (Bappeda Lampung Province, 2016). The influence of this sector can be seen from various subsector, namely food crops, plantation crops, livestock, forestry, and fisheries. One of the food commodities and plantation commodities are cassava and sugarcane crops.

PT.Gunung Madu Plantations is one of Indonesian industry in sugar cane plantation with an area of 4000 hectares of land. The company is partnering with sugar cane farmers to produce sugar. In 2013, the number of farmers who partnered with PT.Gunung Madu Plantation reached 309 people, and in 2014 increased to 589 people, but in 2015 the number of farmers who partnered decreased to 491 people, while Bumi Waras Company to partnerships with farmers cassava to producing tapioca. In the relation to this partnership, there were many sugarcane farmers moving to partnership to farming of cassava. By 2015, the number of sugarcane farmers who changed partnerships to cassava farmers was 143 people. Therefore, knowing the factors that cause the motivation of farmers to switch in partnership is very interesting to be studied. The purpose of this research was to know: 1) farming income of Cassava and Sugarcane, 2) comparison of farming income of cassava and sugarcane, and 3) factors related to partnership change from sugarcane farmers to be cassava partnership in Lampung Province.

MATERIALS AND METHODS

Research was conducted in the Lampung Tengah subdistrict, Lampung Province from December 2015 until May 2016. Respondent were selected from sugarcane and cassava farmers and determined purposively because in the districts many farmers were switching from sugarcane partnership to cassava partnership. Data were collected through interview technique and in-depth interview and FGD. Data analysis was done by using parametric statistic of binary logistic regression.

RESULTS AND DISCUSSION

Partnership in farming of sugarcane and cassava are business strategy to mutual profits for agricultural company and farmers (Hafsah, 2002). Because of partnership is business strategy, partnership successfully is determined of farmers and agricultural company. For example, discipline to obedient partnership procedure from farmers and company is most important. Agribusiness system in Indonesia, partnership shape are 1) nucleus - plasma , 2) subcontract, 3) trade shape, 4) agency shape, and 5) operational partnership (Soemardjo, 2004). The result of this research, partnership shape between PT. GunungMadu Plantation and PabrikBumiWaras with sugarcane and cassava farmers is nucleus-plasma partnership. In the form of partnership the company provides capital aid and materials of production to sugarcane and cassava farmers. The company also provides assistance to farmers in technical cultivation, maintenance, harvesting, and marketing of production. Table 1 showed the company partnership performance with sugarcane and cassava farmers.

Table 1. Partnership pattern performance by sugarcane and cassava farmers

No	Aspect	Performance	
		Sugarcane partnership	Cassava partnership
1.	Cultivation techniques	More difficult, and got guidance from the company about cultivation techniques	Easier, and no guidance from company about cultivation techniques
2.	Productions of materials	The company provided production of materials	The company no provided production of materials
3.	Capital aid	Only for sugarcane farming	For cassava of farming and other nescessities of life.
4.	Processing of product	Companies that process production of sugarcane	Companies that process production of cassava
5.	Marketing of production	The company receives the production of sugarcane farmers	The company receives the production of cassava farmers
6.	Profit-sharing system	Farm income is paid in stages (80% paid when harvesting and 20 % paid later)	Farm income is paid when harvesting (100%)
7.	Partnership requirement	More difficult	Easier
8.	Farm income	High enough (Rp.11.403.828,00/ha/season), but paid in stage	High enough (Rp.13.282.985,00/ha/season)and paid when harvesting
9.	Land area	Requires a large area (15 hectare each smallgroup farmers)	No requires a large area each smallgroup farmers)

Table 1 showed that partnership in cassava farming is more convenience compared to partnership in sugarcane farming. In addition, the farm income factor obtained from cassava farming is higher than sugarcane farm income and the presence of capital loan to cassava farmers for other purposes causes farmers who previously partnered in sugarcane farming to switch to cassava partnership. Furthermore, the capital aid received by cassava farmer for livinglostalso influenced the moving of sugar cane farmers into cassava partnerships. This fact showed that the relative advantages and farming income received and the other factors have effected the movement in partnership. Thus, if these two forms of partnership are to be maintained must be considered the other factors. The results of this study also supported the

results of research conducted by Hasanuddin (2013), Mardikanto (1998), Scott (1983), and Wolf (1981) that farm income and relative advantage influence to farmers' decision making to adopt of innovation such as moving commodities in farming. Table 2 showed that several factors affecting the movement of sugarcane farmers to cassava partnership.

Table 2. Several factors that affected the movement of sugarcane farmers to cassava partnership.

Variable	Variable	α	Significancy
Capital aid			0,000
Farming income share system	Changes to partnership	0,05	0,132
Partnership requirement	in farming by farmers		0,005
Large of area			0,000
Farming income			0,001
Production of materials			0,000

Table 2 showed that farming income share system had no relation to change in partnership of farmers, but capital aid, partnership requirement, large of area, farming income, and production of materials affected to change partnership. If it is related to the needs of the farmers life, the farming income sharing system needs to be considered.

CONCLUSION

The results of research showed that 1) farming income of Cassava (Rp.13.282.985,00/ha/season) more than farming income of Sugarcane (Rp.11.403.828,00/ha/season), 2) Revenue and cost ratio of cassava farming partnership (2,15) was more than revenue and cost ratio of sugarcane farming partnership (2,13), and 3) factors related to the change partnership of farmers in Lampung Province were capital aid, partnership requirement, large of area, farming income, and production of materials.

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