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Empowerment of Copra Farmer Group using E-Commerce

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ABSTRACT

Copra farmers in the village of Pondos, South Minahasa, are copra farmers who produce copra traditionally. So far, copra production has only been sold to existing middlemen and at a price determined by the middlemen themselves and regardless of the price of copra in the market. This causes the copra farmers to lose a lot of money because the farmers sell them at too low a price to existing middlemen or brokers. On the other hand, copra farmers do not have the skills to use e-commerce information technology so farmers are increasingly disadvantaged by middlemen. Another problem is that the market reached by copra farmers is only limited to the West Amurang area and is very limited, so the copra production produced by the farmers becomes abundant in the market. This is used by middlemen to speculate on prices so that copra prices fall and are very cheap among farmers. The solution that is trying to be offered is to provide training and assistance on the use of information technology, and e-commerce to copra farmers so that they are able to improve their ability to use e-commerce for marketing copra commodity products. With the increasing ability of copra farmers, they can use it to get copra prices that are in accordance with market prices, they are able to sell copra products through existing e-commerce and are able to reach a wider copra market. The method used to conduct training for copra farmers is a quantitative method of measuring the ability and income of farmers before and after the implementation of assistance. With this service program, it is hoped that copra farmers' skills and abilities in using e-commerce will increase and the income of copra farmers will increase because they are able to sell at market prices and can be monitored in real-time. The expected result is that copra farmers can reach a wide and large market for copra commodities so that they can increase farmers' copra production.

Keywords: *copra, e-commerce, farmers, ICT, price*

INTRODUCTION

Indonesia is a largely agricultural country in the world so it needs great attention from the government and various parties. The agricultural sector plays an important role in the national economy, one of which is plantations. Coconut is one of the plantation commodities that has an important economic value for farming communities in Indonesia. Indonesia has a coconut area of around 3,631,814 hectares and has a production of 3,031,310 tons, which means that some farming families in Indonesia depend on coconut for their income (Lumintang 2015). The population of North Sulawesi in general lives in the agricultural sector, where most of the people of North Sulawesi are farmers, so the agricultural sector is very important in supporting the lives of farmers in North Sulawesi (Hutabarat & Pacific 1989). North Sulawesi is a national center for the production and processing of agricultural, plantation, and fishery products (RUSNO 2014). Coconut (Cocos nucifera) is a strategic commodity that has a social, cultural, and economic role in the lives of Indonesian people. The benefits of the coconut plant are not only in its flesh, which can be processed into coconut milk, copra, and coconut oil, but all parts of the coconut plant have great benefits, so coconut is also called the "tree of life" (Lumintang 2015). Meanwhile, copra is dried coconut flesh. Copra of coconut flesh is the raw material for making crude coconut oil (CCO) and other derivative products. To make better copra, you need coconut that is about 30 days old and weighs about 3-4 kg (Lumintang 2015).

One of the coconut-producing villages is Pondos Village. Pondos village is located in Amurang Barat sub-district, South Minahasa district. The majority of the area in Pondos village is planted with coconut plantations and is part of a coconut plantation in the South Minahasa district. South Minahasa Regency is one of the regencies in North Sulawesi Province, which is the main center of coconut plantations, with an area of 47,810 ha of coconut land which is the second-largest coconut area after North Minahasa Regency, namely 48,235 ha which produces copra in North Sulawesi (Lumintang 2015). The breadth of product development potential, the progress of the coconut economy at the macro-level (competitiveness in the global market), and the development of coconut into copra in the South Minahasa Pondos village is a necessity in supporting the economy and welfare of the community and being able to generate foreign exchange for the country through the development and support of government policies. Pondos Village is the place for this service, where most of the population works in agriculture, especially coconut farmers which are processed into copra.

Copra production from 2003 to 2021 fluctuated. From 2003 to 2004, copra production in South Minahasa increased by 2,941.2 tons. From 2005 to 2007 production decreased. When compared between copra prices and copra production (copra prices are more clearly visible than copra production), copra production tends to be flatter than copra prices. The cause of the decline in copra production in South Minahasa Regency is the felling of trees that are no longer productive without proper rejuvenation. In addition, the attack of shoot rot disease that makes coconut plants will die. This resulted in the decreasing population of coconut plants and followed by a decrease in coconut production. This makes landowners prefer not to harvest copra because the results obtained cannot cover the costs that have been incurred, such as hiring workers to harvest copra. From 2008 to 2009, copra production has started to increase again, this is because farmers in South Minahasa have been rejuvenating coconut trees. From 2008 to 2009, copra production increased but decreased in 2010. It increased again in 2011 and decreased in 2012 copra production decreased,

amounting to 446.58 tons. If it is related to the price of copra and production of copra, then the price does not significantly affect the level of copra production each year (Madilah et al. n.d.). This finding is due to the fact that coconut is an agricultural commodity whose production increase cannot be forced, meaning that the amount of copra production will remain the same, even if the price increases. In addition, coconut is an annual plant that takes a long time to respond to price changes (Massie 2015). Another factor is the decision-making of farmers to meet urgent needs. Farmers' incomes are only received every harvest season, while expenses must be held every week or sometimes in an urgent manner, this causes farmers to prefer to sell granulated coconut rather than having to make copra because it takes quite a long time and requires extra energy so that sometimes farmers ignore the fluctuations in copra prices (Mesin & Padang 2011).

From the existing data on copra production and copra prices, if we look at copra prices for the current year or the previous year, there is no effect of the increase in copra prices at the level of copra production in the South Minahasa Regency. This means that the price of copra cannot be used as the only indicator of an increase in copra production, because there are other factors that can influence farmers in producing copra, such as employment. Copra farmers who have side jobs such as motorcycle taxi drivers who have more income than being copra farmers, then copra farmers will ignore their land and turn to motorcycle taxi drivers because, in terms of income, motorcycle taxi drivers are more profitable than being copra farmers. Even though prices have increased quite high, copra farmers cannot force copra production to be high. This is because the condition of coconut in South Minahasa is currently apprehensive. Because many coconut plants are damaged and old, causing a decrease in Copra Production. Coconut plants are also an annual crop which, if the price goes up, farmers cannot immediately increase their production, there must be a coconut plantation development, which takes a long time, starting from providing seeds to planting trees which must also take time to wait until the coconut trees can produce products for 6 to 8 years. Apart from the age factor, there are also coconut trees that have been cut down for building raw materials for houses, lack of desire to produce at the farmer level, no desire to carry out new plantings, and other efforts to increase production because of the price presentation received by other groups. There are several efforts made by the South Minahasa Regency government to increase Copra Production in South Minahasa, one of which is the coconut rejuvenation program. The government is trying to create facilities for farmers, such as providing seeds, fertilizers, and others. So that farmers can easily get these production facilities at relatively low prices, even providing free seeds for coconut farmers (Sondakh et al. 2015).

The decline in the selling price of copra has resulted in farmers no longer producing copra. The income from the sale of copra is reduced, as a result, farmers cannot meet their daily needs. As for the alternative that is done by some copra farmers in South Minahasa, namely by implementing an intercropping system, namely by planting crops between coconut trees, such as corn, peanuts, and cassava to cover losses in copra production. Intercropping systems can provide a double advantage. Coconut plants can remain fertile because they indirectly get fertilizer. Price also cannot be used as a factor in increasing production, whether it is seen in the conditions of the previous year or the conditions of the following year. A price increase or a decrease in copra prices does not guarantee that copra production will increase. This is because, copra is an agricultural product whose production is uncertain, where it can be low or high and the risk is great because it depends on nature, which is mostly beyond human control. If the South Minahasa Regency government's assumption that price increases can increase the amount of copra production in South Minahasa Regency is wrong. Due to the fact that if the price goes up, the copra production will decrease. The price of copra can stimulate farmers to harvest coconuts, but to increase their production or not. Another factor that causes the price of copra to decline is the actions of middlemen or brokers. This

is because most farmers only sell copra to the second buyers at a price set by the second buyers so that it does not match the price on the market (Idin 2016). Second buyers only buy at daily prices determined by themselves based on existing trends without looking at price fluctuations in the market. Thus, copra farmers do not have a reference in giving a selling price, thereby harming the farmers themselves.

Apart from production factors, another influencing factor is the market area for selling copra production. So far, farmers can only sell to the nearest vendor in the village of Pondos and have no farmers lose more and more. Farmers themselves have a lack of information to reach other sales areas and lack of facilities to access the latest copra prices on the market in real-time so that farmers can sell at the latest prices they get. The condition of copra production is still being carried out by farmers in the village of Pondos in the traditional way from generation to generation. See figure 1.

Figure 1 The process of collection, smoking and preparation for sale

Pondos Village, South Minahasa Regency already has internet and communication technology and even an internet network. Information technology can be used by farmers to access various information in cyberspace (Dow 2013). Information technology provides various things, both social media, e-commerce (Gitau & Nzuki 2014), and various interesting things (Thyagarajan 2015) and can be used to increase production (Einav et al. 2014) head, expand the marketing area (Roback et al. 2016) and to get real-time market prices. Various facilities have been provided by information technology, including e-commerce (Ngai & Gunasekaran 2007) but are still not used by copra farmers in Pondos village. This is also related to the problem of the ability to operate e-commerce owned by farmers in the pondos village. Farmers, there are still very limited in using information technology including e-commerce (İkram Daştan 2016) so the right solution is needed for this.

Based on the above phenomenon, the problems faced by partner 1 can be seen as described as follows. See table 1.

1. Lack of knowledge about e-commerce and information technology so that copra farmers cannot get real-time market prices for copra.
2. Lack of skills possessed by copra farmers (partner 1) so that the ability to operate information technology equipment so that they are not able to use and utilize e-commerce appropriately.
3. The copra marketing area is less extensive and is only sold to collectors/middlemen so that prices are low and farmers' incomes are low
4. The low production of copra by farmers is due to low market demand so many farmers lose money and only produce copra seasonally.

Table 1 Partner Problem Conditions

Problems	Partner settlement process	Partner
Lack of knowledge about e-commerce and information technology	Conduct training and assistance on e-commerce that can be used by farmers	1
Lack of skills possessed by copra farmers	Conduct training on how to use, sales systems, payments and other e-commerce transactions	1
The copra marketing area is less extensive and only sold to collectors/middlemen	Provide techniques to get copra prices in real time so you can see prices quickly and easily	1
The low copra production by farmers is due to low market demand	Assistance for copra farmers to get the market online through e-commerce used by farmers	1

Offered Solutions

Improving the ability and skills of copra farmers is very important in improving the welfare of copra farmers. This capacity improvement is in the form of increased knowledge and skills in e-commerce and information technology. The solutions we are trying to offer are as follows:

- Conduct training and assistance on e-commerce that can be used by farmers.
- Conduct training on how to use, sales systems, payments, and other e-commerce transactions.
- Provide techniques to get copra prices in real-time so you can see prices quickly and easily
- Assistance for copra farmers to get the market online through e-commerce used by farmers

To overcome the problems faced by partner 1, the approach method used is training and mentoring "Appropriate" e-commerce and information technology, according to the needs of partners with a participatory approach and demonstration method where they immediately see, act and apply together according to the needs of partners. The stages of the activities to be carried out. See table 2.

Table 2. Activity plan

No	Activity plan	Participant	Implementation

1	Training on introduction to e-commerce and information technology	Copra Farmers Group	PKM Service Team
2	Training on internet access skills and basic browsing skills	Copra Farmers Group	PKM Service Team
3	E-commerce skills training on how to sell, buy and transact through e-commerce and internet banking	Copra Farmers Group	PKM Service Team
4	Training on bidding via the internet and e-commerce	Copra Farmers Group	PKM Service Team
5	Training on techniques and how to get real-time prices via the internet	Copra Farmers Group	PKM Service Team
6	Training on building and establishing business relationships online, business contracts, and management through e-commerce	Copra Farmers Group	PKM Service Team

The target audience for PKM activities are: Copra Farmers Group in Pondos Village, West Amurang District, South Minahasa

METHOD

The method that will be implemented in this PKM Program service is to conduct training and mentoring as follows:

The implementation of this community service activity is divided into 3 stages, namely preparation, implementation, and completion with details as follows:

- ***Program preparation;***
  directed at survey activities in order to observe and study the potential of natural and human resources involved based on the criteria of the target group. Then mastery of basic material, mental readiness, and enthusiastic interest in participating in the PKM program. In the preparatory stage, this service activity began with a process of coordinating with service members, coordinating with the Pondos Village Head and the head of the Farmer Group in the village, in March 2018.

- ***Implementation:***
  more streamlined the program runs directly from initial activities, active participation of participants, mastery of the material, implementation of activities, skills, and enthusiasm for participating in the PKM program to produce products according to the desired goals. At the implementation stage, service activities are divided into 5 namely:
  1. Training and mentoring on e-commerce knowledge
  2. Provide information about e-commerce and the advantages of using it
  3. Assistance and assistance on how to transact using e-commerce
  4. Training and Mentoring on how to get commodity prices in real-time
  5. Training to get sales and business contracts from customers online.
- ***Completion:***

assessment and comparison before and after the program is implemented. Successful if the final result shows a significant improvement (70%). If the measurement results are below it is declared less successful.

RESULTS AND DISCUSSION

Empowerment Program

The community empowerment program for copra farmers in Pondos Village, South Minahasa begins by analyzing the situation of partners, namely copra farmers by identifying the problems faced by farmers. After the situation is well identified, try to formulate a solution that can be made to overcome the problem. These solutions are carried out as activities for empowerment. The activity was in the form of a training program through a workshop which was conducted directly in Pondos village in collaboration with the village government and presenting copra farmers in the village. Some of the activities carried out are conducting training and assistance on e-commerce that can be used by farmers, conducting training on how to use it, sales systems, payments, and transactions, and also providing techniques for getting copra prices in real-time so that they can see prices quickly and easily, and Assistance for copra farmers to get the market online through e-commerce used by farmers. The expected results are an increase in knowledge about e-commerce that can be implemented, an increase in skills using e-commerce by copra farmers, and an increase in the marketing area so that there is an increase in the income of copra farmers and an increase in copra production due to increased market demand. See table 3.

Table 3. Situation analysis and empowerment program

Partner's current situation	PKM implementation process	PKM results
Lack of knowledge about e-commerce and information technology	Conduct training and assistance on e-commerce that can be used by farmers	Improved knowledge about e-commerce that can be implemented
Lack of skills possessed by copra farmers	Conduct training on how to use, sales systems, payments and other e-commerce transactions	Improved skills using e-commerce by copra farmers
The copra marketing area is less extensive and is only sold to collectors/middlemen	Provide techniques for getting copra prices in real time so you can see prices quickly and easily	Increasing the marketing area so that there is an increase in the income of copra farmers
The low copra production by farmers is due to low market demand	Assistance for copra farmers to get the market online through e-commerce used by farmers	The increase in copra production is due to increasing market demand.

Implementation

The community empowerment program for copra farmers began by organizing training on the use of information technology with material on the use of e-commerce in plantation businesses, especially copra products. Some of the training and mentoring materials provided are the first material on e-commerce technology that can be used by farmers, the second material on how to use it, sales systems, payments, and other e-commerce transactions. The third material is about

techniques to get copra prices in real-time, and the fourth material is about techniques to get the market online through e-commerce. All training materials are conducted face-to-face in Pondos Village. The activity began with an opening by the village government and continued with training activities. Documentation of activities can be seen in table 4. The provision of materials begins with providing materials, direct demos of e-commerce applications, and transactions via mobile banking and ends with a question and answer discussions with participants, namely the village government and copra farmers.

Table 4. Implementation of empowerment activities

The result that can be achieved from this empowerment program is an increase in knowledge about e-commerce that can be implemented by copra farmers in Pondos village, South Minahasa. In addition, copra farmers experience increased skills in using e-commerce. This can be seen during the evaluation after the activity by interviewing the copra farmer participants who were present. Another result obtained is an increase in the marketing area so that there is an increase in the income of copra farmers because copra farmers can identify markets where the copra products can be sold. The final result that can be produced is an increase in copra production due to increasing market demand. This happens because copra farmers can produce and increase copra production to meet existing market demand.

This empowerment program is very important to be carried out and should not only be carried out for copra farmers in Pondos village but can be increased to other villages that have copra plantations so that there is an increase in the welfare of copra farmers. This can happen if there is sufficient funding and mature cooperation between universities and local governments.

CONCLUSION

The conclusion that can be drawn from this community service program is that the copra farmer community in Pondos Village, South Minahasa, after participating in copra farmer empowerment training on e-commerce and the use of information technology in agriculture/plantation, the copra farmer community has been able to identify opportunities that can be exploited through information technology and able to conduct marketing and sales of copra through online e-commerce applications. The community has good insight to make transactions through farmers' e-commerce applications and is able to see in real terms the price of copra circulating in the market. In addition, the fundamental contribution that is targeted is increasing the ability (skills) of copra farmers in using information technology e-commerce so as to increase farmers' income and welfare. This contribution enables copra farmers to know quickly and in real-time the selling and buying price of copra products/commodities so that copra sales become better. Another contribution is that copra farmers can expand their marketing area so that they can reach a wider area so that the welfare of farmers will increase.

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