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FARMERS' PERCEPTION AND PROCESS OF ADOPTION AND DIFFUSION OF OIL PALM CULTIVATION TECHNOLOGY IN SENAMA NENEK VILLAGE TAPUNG HULU KAMPAR RIAU

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ABSTRACT

This research aims to investigate famers' perception about oil palm cultivation and to know the process of adoption and diffusion among farmers. The research method was survey with Participatory Rural Appraisal (PRA) technique through Focus Group Discussion (FGD) and interviewed to 15 independent smallholder farmers and *ex-plasma* smallholder farmers. Descriptive analysis was done to analyze the first and second purpose. The research results indicate, first, perception of farmers about farming of oil palm cultivation, farmers feel that palm oil cultivation profitable and fairly easy to cultivate. Farmers also found that oil palm cultivation does not damage the environment. The positive attitude has been shown by the farmers and the surrounding communities in term of supporting for farming of oil palm cultivation. Second, the adoption process started from the view, interested, observing, trying in small and large scale to further adopt a broader scale and adopting. While the process of diffusion is a continuous process of adoption, after *ex-plasma* smallholder farmers apply, the independent smallholder farmers imitate to cultivate oil palm.

Key word: Farmers' Perception, Adoption, Diffusion, and Oil Palm Cultivation

INTRODUCTION

The leading sector in the Province of Riau is oil palm plantations, which is the largest in Indonesia. Among 11 districts / cities in Riau, Kampar District has the largest plantation area, where sub district of Tapung Hulu is the largest oil palm production that have capital sub district Senama Nenek Village (Dinas Perkebunan, 2012). Almost all local community have oil palm plantation. It has been known since State Owned Plantation Company (PTPN V) established oil palm plantations nucleus-community pattern (PIR-TRANS) in 1986. At that time, the people's livelihood in general still as shifting cultivators, looking for forest products (such as rattan, timbers), fishing in the river, and hunting. After seeing the success of the local community who joined PIR-TRANS program in the 90's (20% of the area should be reserved for local residents), people began to open its own oil palm plantations. Palm plantation holdings averaging around 1-5 hectares. Farmers generally do not cultivate as well as palm oil cultivation in industrial plantation, for example in seed selection, plant spacing, fertilization, maintenance, and harvesting. As the consequence, the quality of fresh fruit bunches (FFB) of palm oil are relatively low, and this affects price of oil palm (Sulaksono, 2009)

However, it should experience of farmers who have followed the pattern of PIR-TRANS can be applied to farmers who undertake self pattern, because most farmers who have followed the pattern of PIR-TRANS Village of Senama Nenek returned to the village and became the Independent farmer. In addition, Independent farmers who had been farmers, they are just starting cultivation of oil palm smallholders after seeing the success of the PIR-TRANS pattern. Usually *plasma* farmer cultivated oil palm by mimicking the ways that oil palm cultivation by farmers PIR-TRANS.

Productivity of oil palm plantations that they have also is very low. The technology of oil palm cultivation on farmers who had been plasma farmer smallholder plantations PTPN V adopted the technology, then it was diffused to Independent smallholders farmers. Between two proposed typology of farmer category raises the question how farmer's perception about oil palm cultivation and how the process of adoption and diffusion of technology of oil palm cultivation

In theory, the process of technological adoption and diffusion can be explained as follows (Rogers, 1983 cited Leuwis, 2009)

- (a) Phase of awareness, the information is still general; the target began to realize about innovation.
- (b) Phase of interested, collecting and seeking information from various sources, the desire to learn more things.
- (c) Phase of evaluation stage, began to consider further whether an interest passed or not, an assessment of the good / bad or the benefits of innovation has been known more fully the information
- (d) Phase of trial, applied on a small scale experiment on a small scale for a more conclusive assessment.
- (e) Phase of adoption, applied on a large scale land, receive / apply with confidence based assessment and testing that has been done and observed themselves.

THE PURPOSE

The purpose of this study is to know the farmers' perception about oil palm plantation and the process of adoption and diffusion technology of oil palm cultivation in the Senama Nenek Village.

METHODOLOGY

This research was conducted by survey method with Participatory Rural Appraisal approach (PRA). Sampling was done by purposive sampling for oil palm farmers who had been a pattern of Independent smallholders and that never became farmers who cultivate palm oil 8-15 years old in the year with a plant area of 2-5 ha (assuming production is almost equal). 30 people were taken as respondents, 15 Independent farmers who had been plasma farmers, and 15 Independent farmers who have never been plasma farmers.

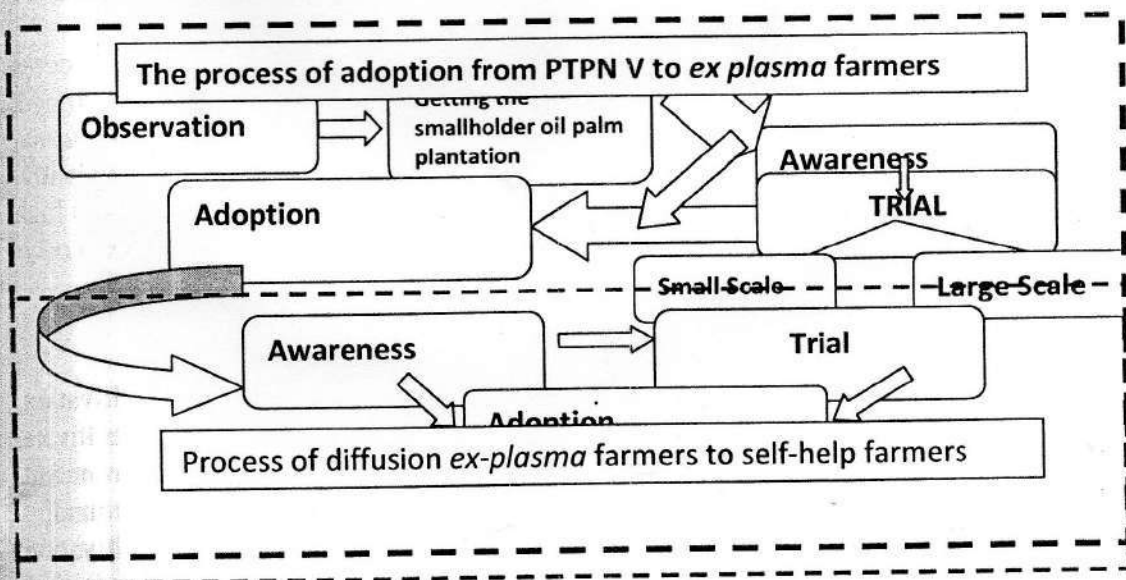
Data collected in the form of primary data and secondary data. Secondary data was obtained from the Village Governmental Office. While the primary data obtained by semi-structured interviews with respondents and conducted Focus

Group Description (FGD) in both groups of farmers. Data were collected, tabulated and analyzed descriptively. Descriptive analysis was done to analyze the first and second purpose.

RESULTS AND DISCUSSION

Perception can be defined as the process of information acceptance or environmental stimulant, then it is changed in psychological awareness (Ban, 2009). The result indicates that the farmers' perception about oil palm farming is profitable, even if the prices perceived to be quite expensive inputs. However, oil palm cultivation is a farming system that is easy enough to do and the income earned is also quite large. This is because the respondents generally did not seek another farm or plant other commodities. Farmers consider that oil palm cultivation does not affect or damage the environment. Even respondents felt that oil palm is suitable for planting in the neighbourhood or on their land. Moreover, according to the farmers, their families support oil palm cultivation. Supporting of family members and the surrounding community are given in the form of engagement and their positive attitude towards farming activities undertaken by farmers such as involvement in farming activities and sharing information with other farmers.

Secondly, the research result show, although there are several differences, the process of adoption and diffusion in oil palm plantation in Senama Nenek Village is almost the same as the theory of the adoption. Rogers (2003) states that the nature of innovation adoption caused by the perceived relative advantage, adaptability to local conditions, not too complicated to implement, can be tested, and farmers can see the success of innovations. Stages of the adoption process through the following stages in picture 1.



Picture 1. The process of adoption and diffusion of oil palm technological cultivation

a. Seeing (observing)

At the beginning of PIR-Trans joined program of local communities, farmers involved to identify ways in oil palm cultivation. These activities include the selection of seed, fertilizer, and maintenance. At this time, farmers have not got plasma's plantation.

b. Getting smallholding

Farmers got farm of 2 hectares / family. At the time, farmers began to feel rather encouraging results from oil palm cultivation. Even in 1998, according to the respondents, the results are in the tens of millions of rupiahs.

c. Awareness

After seeing the benefits in the form of adequate and stable income every month, farmers realized that the plant oil palm is a business that prospective. It raises awareness to try it on new land, in the land that they still have in the Senama Nenek Village.

d. Trial

With the knowledge and experience that they have, trying to cultivate smallholder oil palm plant independently, some farmers tried on a small scale (1-2 ha), some farmers try out on a large scale. Although, in general, the results are not optimal plantation independently due to the use of seeds those are not good.

e. Adoption

By trying to be independent, the farmers implement self-cultivation, almost all farmers tried to continue the application process. Then, they sold the land the plantation plasma PIR-Trans because they cannot control and they more focus on the cultivation of oil palm which they build self-reliance.

Furthermore, the process of diffusion as the continued adoption process happened as followed: awareness: the consciousness that comes up in the farmers who have never been cultivating oil palm, after seeing the success of *ex plasma* farmer, while still recording the PIR-Trans program and do it independently. Trial, like the stage trying as suggested by Rogers (1995), farmers tried with high confidence to implement it. Adoption, the level of technology adoption palm oil is very high, due to the large demand for fresh FFB of oil palm.

4. Conclusion and Implication

It can be concluded, first, perception of farmers about oil palm cultivation, farmers feel that palm oil cultivation profitable and fairly easy to cultivate. Farmers also found that oil palm cultivation does not damage the environment. The positive attitude has been shown by the respondent and the surrounding communities in the form of support for the farming of oil palm cultivation. Second, the adoption process started from the seeing, interesting, observing, trying in small and large scale to further adopt a broader scale and adopting. While the process of diffusion is a continuous process of adoption, whereby after *ex plasma* farmers apply, then a look of Independent smallholder farmers improve the welfare of farmers *ex-plasma* also follow.

The research results also have an implication on policy makers that they have to pay attention to the adoption and diffusion process that occurs in farmers: the farmers will have an awareness of farming, If they have seen others successful farmers. However, mentoring and facilitation of the provision of seeds, fertilizer quality is the responsibility of the government through extension.

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