

The Determinants of Commercialization of Households Farmers Rice Tidal Land in Tanjung Jabung Timur District, Jambi Proveny

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ABSTRACT

Demand for agricultural products has been will continue to change, grow and develop at high speed, it is time offender production (farmer households) rice with multi commodity and multi product aims to meet the needs of the consumer. The aim of research to determine the performance level of commercialization of farming and household enterprises rice farmers in Tanjung Jabung Timur District. The method used in the writing of this paper, do a comprehensive analysis of secondary data, secondary data from the Agricultural Census 2013 in Tanjung Jabung Timur District, Jambi Province, some data from field surveys and literature. From the research, farming tidal land is entirely run household. Only a small proportion of agricultural businesses are managed agricultural enterprises. Farm households cultivate diverse (diversified) business diverse products of subsistence and commercial commodities produced. Commercial commodity in the tidal land that has been developed, farm households have got used to manage annual crops of high economic value is a commodity areca, coconut/copra, coffee, while the new crops are oil palm and rubber Other local wisdom is to choose short-term crops (annuals) or other commercial semi commodities. This is possible because of the chance pull factors and the push factors of each commodity are: (1) the availability of land resources (wet and dry); (2) limited human resources/labor, both in quality and quantity; (3) lack of capita/ capital markets; (4) technological mastery commodity/local wisdom, (5) the farmer institutions: farmers' groups combined/farmers groups and market (the auction market, their product distribution channels farming and lane farm; land and waterways, price information) and (6) ease other cash income by obtaining periodic/weekly. Commercialization level of households and farming of tidal land has not entered full commercial category, but classified as semicommercial farming.

Key words: commercialization, farming, households, land tidal and rice.

INTRODUCTION

In early July 2015, the first forecast figures of paddy production in 2015 reached 75.55 million tons of dried paddy (GKG), or an increase of 6.65 percent compared to production in 2014 reached 70.8 million tons. The figure is equivalent to 41 million tons of rice. If the number of rice consumption of 114.12 kg/capita/year, the total consumption of rice for 253 million people hover around 30 million tonnes. That is, Indonesia has reached the target surplus of over 10 million tons. In 2014, Indonesia also had a surplus of 8.8 million tonnes and so did in 2013 a surplus of 9.5 million tonnes (BPS, 2015).

The government's target for food self-sufficiency next three years, is not an easy target to be achieved, given the problems of food will always be associated with the key issues concerning the availability of land, provision of production facilities and infrastructure, the provision of supporting infrastructure, processing technology, capital and institutional, competitiveness commodity and market competition, human resource capacity, consistency of central and local government policy in implementing sustainable agricultural development, and the impact of international policies relating to food products and agricultural products Indonesia

In an effort to maintain and preserve food self-sufficiency, especially paddy/rice nationally with regard to continued population increase and the conversion of agricultural land for non-agriculture, one of the strategies pursued by the government is to optimize the utilization of tidal land. Tidal land has a great potential for the development of agriculture with high productivity when done by applying specific technologies and supported by institutional conductive (Haryono, 2013).

Tidal land in Jambi province is Tanjung Jabung Timur district area of 33 827 ha (64.06%) of the total land area of existing (BPS, Jambi Province, 2014). Increased production of rice or further production of other commodities, can be constrained due to relatively many wars commodities in a limited area with limited human resources. in 2014, as many as 18 commodity crops planted in areas of Indonesia, which continues to be encouraged by the government's productivity. Various commodities were competing with the

program and the program are to come from the same institution and different. This condition is an opportunity for farmers to determine the decision in production. Orientation of production of farmers and farm family members to determine the quality and quantity of output produced or inputs used.

With the application of appropriate agricultural technology and the role of government, including institutional engineering together or each of the past and to date has now changed the rice shortage become self-sufficient and even surplus. So it is going in Tanjung Jabung Timur, various commodities were competing with the program and the program are to come from the same institution and different. Housekeeping rice farmers are also in addition to conducting on-farm, also off-farm activities (processing, marketing and services in the field of agriculture) and non farm. Housekeeping future farmers are the ones who have the ability to do business, managerial ability, leadership, and entrepreneurship. Looking at agriculture as a business venture, businesses in agriculture.

With limited household and the number of alternative business opportunities, this condition is an opportunity for domestic farmers to improve the welfare of farmers to determine the decision of many choices of commodity and business opportunities or existing market opportunities in production, whether peasant households remain subsistence or turned into commercial production orientation. In this paper, the authors are interested in discussing how the level of commercialization efforts neighbor household tidal land rice farmers and also how the performance of the farm in Tanjung Jabung Timur.

RESEARCH ELABORATIONS

Eskola (2005), examined the determinants of farmers' participation in market output in Tanzania using a linear regression model. Increasing the distance to negatively affect the market found a level of commercialization. In addition, access to market and price information affects the level of commercialization of local households, but to a certain extent. Gibreel and Bauer (2007), using OLS models to assess the influence of socio-economic variables to the decision of the commercialization of farming households in western Sudan. Commercialization level of output is negatively correlated with the number of children in a family, the cost of inputs (pesticides), and transportation costs. On the other hand, the commercialization of the output was found positively correlated with the level of education and income outside of farming.

Asfaw et al. (2010), utilizing a regression model with propensity score, to examine the relationship between the increase in the increased use of inputs and commercialization in Ethiopia. Research results revealed that the use of good agricultural technology, the capital (assets) and the availability of family labor has a positive impact on the production of marketed surplus, while the age of the head of household and the distance to the market have a negative impact on the surplus production is marketed. Larson and the Deininger (2001), used a model tobit to examine the determinants of farmers' participation in market output in Uganda. A higher level of participation of farmers to markets higher output in the market when the price of output. Komarek (2010), used the model tobit and double hurdle models to examine the determinants of market commercialization of bananas in western Uganda. Farmers with higher yields and access to information that is found to sell more output while farmers further into the market found to be less participate in the market. The rise in prices of products were also found to attract more participation in the market. Studies from various African countries also demonstrates the potential synergies or trade-offs between investment cash crops and food crops production. The study found that the presence of commercial crops, such as cotton and peanuts have positive benefits for the small farmer food production in certain regions. Positive benefits include increased adoption of fertilizer on food crops is made possible by the distribution of crop inputs that can be purchased by cash. And increased availability of agricultural credit through accelerated cash crop that can be used to hire labor and finance additional investment in productive assets like draft oxen and traction equipment. These studies raise the possibility that the promotion of commercial crop production may, if appropriate be applied, have positive spill-over effects are important food crop intensification and productivity (Strasberg et. al., 1999). Strasberg et. al. (1999) found that the commercialization of multi-commodity plants correlated with the area of land ownership or cultivation areas among households surveyed in several areas of Kenya. Research results also mentions the commercialization of farming households, generally have a positive effect and significant on the use of fertilizers and crop productivity. The results also show that a 10 percent increase in the index of commercialization households (HCI) from an average rate of 39 percent, resulting in an average additional use of fertilizers 8 kg per hectare of fertilizer used on food crops and additional crop production averaging 7 percent.

Research results Govereh et. al., (1999), found no relationship, either directly or indirectly, between commercialization and productivity of wheat crop. Commercialization also contribute to the capital increase of grain production farm. In his research, found that the level of commercialization of farmers in Zimbabwe are significantly influenced by education of household head. Education of household head are also significant to farm productivity in Mozambique and Zimbabwe. In Zimbabwe, investment in human capital training program for cotton has a positive effect on the productivity of marketable surplus of food crops. It is well known that a high value commodity prices is the reason for the intensification. Additional evidence from other parts of Africa have shown that the process of intensification of agriculture and the growth of productivity increase of production is sold in the market (von Braun and Kennedy, 1994). In short, all of which are reviewed literature supports that by intensifying crop commercial to increase production and positive impact on household income of farmers in African countries.

RESEARCH METHODOLOGY

The method used in the writing of this paper, do a comprehensive analysis of secondary data, secondary data from the Agricultural Census 2013 in Tanjung Jabung, Jambi Province, some data from field surveys and literature. This study, analyzing the data the district and sub-district, by taking the 4 districts of 11 districts in Tanjung Jabung, namely Muara Sabak Timur, District Rantau Rasau,

District and Sub-district Berbak Nipah Panjang. The reasons for selecting sub-district is the region becomes the highest tidal land rice farming households and other reasons are analyzed districts is part of a research area for research dissertation author ongoing. The level of commercialization of rice farming households measured by the value of sales output of all commodities to market compared with the output value of all commodities (Govereh et al. 1999, Strasberg et al., 1999). The level of commercialization of rice farming, assessed in terms of sales in terms of output and input purchases paddy (Von Braun et al., 1994).

RESULTS AND DISCUSSION

Performance of farming and households farming is farming activity whose activities produce farming with the aim of some or all production sold. Farming in this paper covers the business of food crops, horticulture and farming, including agricultural services. Specialty crops (rice and pulses) although it is not for sale (self-consumption) remains covered as a business. Farmer households (household farming) are households in which one or more members of the household manage agricultural enterprises with the purpose of part or all of the results are to be sold, either agricultural enterprises own property, in the result, or the property of others with pay, in this case, including agricultural services.

Agricultural enterprises in Tanjung Jabung Timur dominated by households. This is reflected in the large number of farming households when compared with agricultural companies incorporated or other businesses that besides household and agricultural companies incorporated. Total household agricultural enterprises in Tanjung Jabung Timur, years 2013, there were 41,059 households, an increase of 6.91 percent from 2003 which recorded as many as 38,404 households. Results Agricultural Cencus 2013, the largest increase in farm households in the plantation subsector (oil palm, rubber and betel nut), then the increase in domestic rice farmers, while household food crop farmers and other household commodities decline. While the number of agricultural companies incorporated in 2013 there were 13 companies and other businesses as much as two units. Although only a small amount of agricultural companies but the impact on the commercialization of farming households, farmers are very significant, especially for a commercial commodity. In Tanjung Jabung Timur, on land that affect the tides, the more varied farming with their wetlands and dry land. Based on the results Agricultural Cencus, 2013 known that households simply planting paddy percentage (1-19%) are very small paddy in Tanjung Jabung Timur dominated by households manage horticultural crops, then commodities, crops, rice cereal crops and legumes. For the details can be seen Table 1.

Table 1. Number of Households Farming According to the District and Sub who Endeavored, in Tanjung Jabung Timur, Years 2013

Districts	Food Crops (Households)	Cereal Crops and Legumes			Horticulture (Households)	Plantation (Households)
		Paddy	Cereal Crops and Legumes	Paddy/Cereal Crops and Legumes		
Muara Sabak Timur	5.466	60 (1,10) ^{*)}	2.014 (36,85)	982 (17,97)	4.719 (86,33)	1.994 (36,48)
Rantau Rasau	5.442	279 (5,13)	2.486 (45,68)	1.210 (22,23)	5.133 (94,32)	2.377 (43,68)
Berbak	2.415	450 (18,63)	2.055 (85,09)	1.030 (42,65)	1.857 (76,89)	2.047 (84,76)
Nipah Panjang	4.264	249 (5,84)	1.875 (43,97)	1.161 (27,22)	3.524 (82,65)	1.847 (43,32)
Tanjung Jabung Timur	41.059	2.177 (5,30)	11.488 (27,98)	11.329 (27,59)	36.341 (88,51)	10.344 (25,19)

*) In parentheses figures in percent.

Source: Data processed BPS Tanjung Jabung Timur (2014).

From Table 1, it can be seen that the highest number of households is the business of horticultural crops, then venture commodities and the least amount of household is the household paddy. Paddy even though the outcomes sold production goal is for the primary needs of the family so that the rice including subsistence commodities. Crops include groups of grains, legumes, and tubers. The most commonly cultivated crops farmer households are peanuts, green beans, cassava, sweet potato, taro and others. Commodities commodity come into one's vision as a major cause of land conversion which is a commercial commodity. Orientation production of commodities is a market with a number of larger initial investment than other commodities. Old commodity that survive and thrive are the commodities of local wisdom and includes a commercial commodity is a commodity of coconut, areca, coffee and newly developed commercial commodities are oil palm and rubber and cinnamon.

Land Farming and Wetland

The use of land controlled by peasant households on average 2-3 hectare for land in Tanjung Jabung Timur domestic rice farmers cultivate several commodities at the same time, it is possible because the land is controlled by households consisting of agricultural land and non-agricultural land, while the land farm, consisting of wetland and not the wetland. and data Agricultural Census 2013 explain number of households is increasing and land held also expanding. Data show that although the commodity is a

commodity commercially cultivated (areca, coconut, oil palm, rubber, coffee, etc.), but the management is still the traditional ways (subsistence).

On the side of the means of production, the problems facing is insufficient availability of seeds/seedlings of superior quality, fertilizer, feed, pesticides/medicine, tools and agricultural machinery to the farm level, as well as underdeveloped institutional service providers the means of production. Not to later development effort seed/seedling broadly up in seed production centers resulting price/seedlings to be expensive, even resulting in a lot of circulation of seeds/seedlings false in society that are ultimately detrimental to farmers.

Seed is an important tool for businesses in agriculture, if the seeds/seedlings available is not good or false then the results are not as expected. In addition, procurement of seeds have not matched the growing season, usually the seed to the location after the planting season and sometimes the seed has expired. Condition of infrastructure, facilities and infrastructure, systems difficult to development because it requires substantial investment. Not many are willing to invest the private sector to venture seed/seedling. On the other hand, government is not empowered to handle.

Wetland is part of the area of agricultural land held by households of farmers and agricultural businesses the number of households by districts and groups controlled vast wetland in Tanjung Jabung Timur, can be seen in Table 2.

Table 2. Total Household Farming According to the District and Group Size Controlled Wetland in Tanjung Jabung Timur, Years 2013

District	Land Use in Farm Paddy (Hectare)					
	< 0,50	0,50-0,99	1,00-1,99	2,00-4,99	5-9,99	≥ 10
Muara Sabak Timur	3.680	454	954	359	8	1
Rantau Rasau	3.440	665	1.129	207	1	-
Berbak	576	442	934	433	11	-
Nipah Panjang	2.726	489	679	337	29	4
Tanjung Jabung Timur	32.260	2.533	4.508	1.688	63	7

Source: Data compiled from BPS Jambi (2014)

Table 2, it can be revealed that the number of households has a land area of 0.50 ha of rice farming on a relatively large although more households have a smaller area of 0.5 ha. Agricultural census data of 2013, showed an increase in the number of domestic rice farmers in four districts of the previous year 2003. There is the possibility of increasing the number of farming households due to the many programs to increase rice production and for land improvement productivity optimal and suboptimal land. Increasing the number of farm households could increase kept dwindling in the next year. This possibility is great, due to paddy as subsistence commodities compete with other commercial commodity in many ways. Competing in commodity prices, the use of human resources, land use and the opportunity to increase revenue and participation. Commercial crops (oil palm, areca, coconut/copra, palm oil) does not need a lot of human resources, with no harvest and post-harvest handling, and without participating direct marketing of products and ensure the cash revenue regularly/periodically.

Human Resources

Another potential in the swamp tidal an increasing number of households agricultural enterprises in 2013 compared to 2003, and an increase in most farming households in the plantation subsector (oil palm, rubber and betel nut), then the increase in domestic rice farmers, while peasant households other food crops declined. Although the number of households increased agricultural businesses of farmers but farmers human resources limited in number, this is an obstacle in farm management. In Tanjung Jabung, Timur the number of farming households as many as 41.059 households by the number of farmers 48 642 inhabitants. So that the number of households is not much different from the number of farmers. For details, can be shown by Table 3.

Table 3. Total Household Farming and Number of Household Members and Number of Farmers According to The District in Tanjung Jabung Timur, Year 2013

District	Member of Households Farmers (Person)	Member Of Household			Total Farmers (Person)
		Male (Person)	Female (Person)	Total (Person)	
Muara Sabak Timur	5.466	11.262	10.930	22.192	5.896
Rantau Rasau	5.442	10.160	9.844	20.004	5.834
Berbak	2.415	4.648	4.436	9.084	3.225
Nipah Panjang	4.264	8.687	8.690	17.377	5.238
Tanjung Jabung Timur	41.059	82.527	79.671	162.198	48.642

Source: Data compiled from BPS Jambi (2014)

Table 3, show in one household only 1-2 people per household farmers. If the estimated number of members an average of 5 persons per household means there are 3-4 people who are not involved in managing the farm. It can be concluded their limited

human resources constraints (family labor) in managing the farm. Quantitatively labor for agriculture is less available in Tanjung Jabung Timur district. Factors that strongly supports human resources are their institutional farmer who is very strong both institutional farming (aquaculture) and institutional markets, such The combined group of farmers and farmer groups there every village by the leading commodity in the area. Decreasing the number of farmers who are not many indications of the decreasing interest of young people to work in the agriculture sector.

Agricultural Technology

Agricultural technology has grown rapidly from the production process in the upstream to downstream processing. Many applications of the technology used in modern agriculture industry in Indonesia to pursue a high yield with lower production costs. Various technological innovations have been produced by the Department of Agriculture (Department of Agriculture, 2015). Through the Institute for Agricultural Technology in the areas that generate location-specific agricultural technology, to encourage agricultural systems and efficient business, by utilizing agricultural resources optimally. The technologies include the management of water resources such as water harvesting technology, technology, water use efficiency through drip irrigation, irrigation networks village level (JIDES) and farm level irrigation networks (JITUT).

The use of tools and agricultural machinery, water pump technology, tractors (hand-tractor) for land management, produce new varieties, other products. Post-harvest technology and crop thresher technology (power thresher) grain, technology dryers (dryer) grain. However, the use of modern technology is in addition constrained human resource quality is relatively low, households are not supported financial situation of farmers. Besides being able to accelerate the process of paddy into rice-producing plant but also if it is true that the use of the technology is less precise can cause shrinkage/loss of crops. Similarly, the technology associated with marketing, eg packaging technology, storage, sorting and others that would be a challenge for research institutes to produce technology that is applicable. Various packages are expected to appropriate technology that can be used by farmers to increase the quantity, quality and productivity of agricultural products.

Commercialization efforts Farmer Households

Sales Results

In Tanjung Jabung Timur only a small fraction (<1%) were sold all their crops, 55.59%, which sells most of his crop and 43.56% selling all the produce consumed own crops. To detail can be seen in Table 4.

Table 4. Sales of Products Rice Farmer Households in the district of Tanjung Jabung Timur, Year 2013

District	Number of Households by Sales Results Rice Production (Household)			Total Household
	Sold all	Sold Most	Not Sold	
Muara Sabak Timur	11 (0,55) ^{*)}	1.117 (55,99)	867 (43,56)	1.995
Rantau Rasau	17 (0,71)	1.126 (47,31)	1.237 (51,97)	2.380
Berbak	18 (0,87)	1.348 (65,82)	682 (33,30)	2.048
Nipah Panjang	14 (0,73)	1.140 (59,65)	757 (39,61)	1.911
Tanjung Jabung Timur	88 (0,85)	5.763 (55,59)	4.516 (43,56)	10.367

*) Figures in parentheses in percent

Source: BPS, Tanjung Jabung Timur (2014)

In contrast to the domestic rice farmers, most of the households of farmers crops (36.55 percent), which sells some of the crops cereal crops and legumes. Meanwhile, households that consume the entire crop cereal crops and legumes alone there are about 32.47 percent (12 436 households), while the number of households who sells all his crop amounted to 30.98 percent.

Characteristics sale of the crop that most households sell the entire harvest crops cereal crops and legumes in corn, soybean, sweet potato and taro/canna. The majority of households growing commodities peanuts and green beans just sell part of their crops. Especially for cassava, most households that plant has a purpose that harvest timber parsnip later will be entirely used for own consumption and partly sold. In contrast to the household rice, most households crops (36.55 percent), which sells some of the crops cereal crops and legumes. Meanwhile, households that consume the entire crop cereal crops and legumes alone there are about 32.47 percent (12 436 households), while the number of households who sells all his crop amounted to 30.98 percent. With the commercialization of agriculture will increase the income of farm households.

The increase in income will increase the demand for agricultural products including food crops on the other side. Domestic market demand, in addition to increasing the number, also need a diversity of product variety, so it will open greater opportunities to diversify products. Commodity diversification will lead to the diversification of products. Commercialization will also affect the harvesting and harvesting equipment. In Tanjung Jabung Timur, the main harvesting system used by most households effort rice crop is harvested own with simple equipment.

Commodity Diversification

With so many activities of members of the household rice farmers, meaning peasant households must allocate labor their families for a variety of activities, Household rice farmers cultivate a variety of businesses crops of rice and other food (corn, soy), horticulture (bananas, cucumbers, peppers), plants plantations (coconut, palm oil, coffee, nuts, rubber), farming and pisciculture,

motorcycle transport business, small boat and other businesses. Farm commodity diversification, products and business outside the farming is done adapted to the physical infrastructure available (rivers, ditches/main canal is wide, swamp/pool, main roads and cross streets).

Rice farmer households currently managing more than one commodity at a time other than rice (commodity diversification), mostly a commercial commodity (oil palm, rubber, coffee, areca nut, coconut) and a few others are commodity crops (subsistence) others. This triggered several reasons: (1) improvement in the market/and commodity prices, (2) limited human resources (labor) and technology tools and agricultural machinery (3) limited capital for production activities (aquaculture), harvest and post-harvest, and (4) ease of obtaining cash income regularly (daily/weekly). From some of these reasons, despite their stated farming development, commercialization efforts rice farmer households tidal swamp land not yet commercially available. Household rice farmers obtain the production of various commodities and income from various sources, which are used for the consumption of food and non food, investment in farming activities and human resources of farmers, take out a loan (credit) if you want to develop their farming and save when there is excess cash once covered all the household expenses. Commercial or subsistence farming household economic behavior is a choice of farm households. Each has advantages and disadvantages.

Commercialization of farming is the process of transition from subsistence, semi-subsistence to semi commercial and then to full commercialization (Pingali and Rosegrant, 2012). Through the process of commercialization farming, farming changed the purpose of to feed itself becomes earn cash income and profit (Pingali, 2013). Commercialization of farming can occur on the output side with the increase in products sold (marketed surplus), but may also occur on the input side with an increase in the use of the purchase of inputs (von Braun, 1995). Commercialization of farming is the ratio of the land allocated for individual farming (people) of the total farmland, the ratio of the value of the input (input) which is derived from the value of production (output) in the market, the sales ratio of output relative to the output value (Balint, 2014). Commercialization of farmer households can also be seen as a dynamic process of how the speed of the proportion of output sold and purchased inputs change from time to time at the household level (Moti et al., 2010). The success and failure of the commercialization of farming households affected by many factors (physical, political, economic, social, cultural, technological and individual) and these factors could be an inhibiting factor and the factors driving commercialization. Commercialization is not restricted to food crops as traditional crops are marketed to a certain extent also concerns the commercial crop is definitely a market-oriented (Gabremadhin and Moti, 2010). Specialization as a commodity crops traditionally regarded as a commodity that can be marketed during the commercialization process from subsistence to commercial. The concept of commercialization of farming households in the production of traditional crops, the decision will be targeting the market, rather than just for surplus production (Pingali and Rosegrant, 2012).

Commercialization of domestic rice farmers constrained by limited human resources (labor), the lack of accessibility of households of farmers to markets, especially market information so weak bargaining position of farmers, the accessibility of farmers to the capital, lack of mastery of technology (on farm and off farm) by farmers and the use of production factors is not optimal. In this case the government should support a change towards the commercialization of domestic rice farmers and rice farming by providing accessibility of farm households towards market input and output markets, accessibility of farmers to capital and agricultural finance / credit, technology, production and pricing information, accessibility of farmers to resources, as well as the development of agribusiness area.

CONCLUSION

Performance of households farming on tidal land in the selection of commodities and variance commodities have led to the performance of the household farmers is commercial, especially in the selection. Selection of a commercial commodity or subsistence commodities on pull factor and push factors of each of these commodities. Commercial of households farmers means farmers trying to households farmers with rational, is a threat to subsistence commodities, mainly food crops, especially rice. With the development program wetlands (tidal land) by central and local government, is the opportunity for domestic rice farmers and the government can determine production in swamp tidal, whether market orientation or commercial orientation or survive on subsistence, and can be developed models for both options.

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