Optimization of Sugar Palm Business Management to Increase Farmers' Income and Prosperity in Bukik Barisan Sub-District, Lima Puluh Kota Regency, West Sumatera Province

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A R T I C L E   I N F O

A B S T R A C T

This paper aims to discuss how the actual potential of existing sugar palm development in farm households. The study was conducted using case study method, where the primary data is the main data used to address the research questions. Data were collection using questionnaire which were analysed with qualitative and quantitative approach. The result of the research shows that sugar palm is a commodity that has prospect to be developed to increase income and improve welfare of poor farmers. The potential of sugar palm business development was analysed in terms three aspects: 1) condition of land availability; 2) Manpower owned for palm sugar business; And 3) Experience about palm sugar plants business. Perceptions of farmers are also quite supportive for the development of palm sugar business, although including the medium category because they look very open to accept innovation.

1. Introduction

The cause of poor farmers is largely due to limited access to natural resources, especially land. Freeing peasants from poverty can be done by expanding their access to natural resources. According to Bage (2001), the International Fund for Agriculture Development (IFAD) has played a significant role in the struggle against rural poverty. One key to its success is to enable the poor to have access to natural resources and technology for their productive and sustainable use.

In Lima Puluh Kota regency, generally farmers also have not been able to utilize the potential of natural resources (land, flora and others) in their environment optimally. One source of flora that has been used so far is the sugar palm. Sugar palm are a resource of flora that has economic and environmental benefits. Almost all parts of sugar palm can be utilized by humans. If farmers in Lima Puluh Kota Regency can utilize palm trees optimally, it is thought they can increase their income and welfare.

But until now the management of palm sugar is still done traditionally. Aren grows naturally spread by animals. Sugar palm grows wild plants tend not to be well managed. The resulting product is still limited, generally farmers only produce brown sugar prints are done for generations. In general, producing brown sugar prints until now is still a side business. Sugar Ants that is a diversification of sugar products printing, its manufacture has not been entrenched, but according to Mardhiah (2000) the development of ants sugar agroindustry in District Puluh Kota very possible because supported by several factors, namely: (1) availability of raw materials, (2) Animo craftsmen /

Farmers to produce high ant sugar, (3) Facilities and infrastructure and institutional enough to support, (4) The results of business analysis, to try ant sugar is more profitable than the sugar printing business.

Based on the above, this study aims to determine the potential for palm plantation business development managed by farm households in the District of Lima Puluh Kota.

2. Research Methods

This research has been conducted in Kabupaten Lima Puluh Kota, West Sumatera Province. This area is chosen as a research location because this area has the greatest potential of palm trees, it is expected to become the center of agribusiness in West Sumatera Province. From 13 sub-districts, Bukik Barisan Sub-District was established as a research location taken purposively. From 5 (five) nagari in Bukik Barisan Sub-district, selected by purposive 2 (two) nagari most arature farmers are: Nagari Sungai Naning And Nagari Koto Tangah.

The selection of sub-district and nagari is based on the following criteria: (1) Bukik Barisan sub-district is the area with the largest sugar palm production potential in Lima Puluh Kota District, which is 85.9 tons / year (BPS Lima Puluh Kota, 2014) Currently has produced ant sugar; (2) Naning of the Naning River and Nagari Koto Tangah is the highest number of farmers of arennya; (3) Knowledge and preliminary information about research area; (4) Elements of cost, time, effort and ability.

Field research has been conducted for 4 months that is from January to April 2017.

The study was conducted using case study method, where the primary data is the main requirement needed to identify in answering research questions.

2.1. Data Source

In this study that will be the primary data source is a sample of sugar palm farmers who become respondents. Palm farmers referred to in this study are farmers who own / manage palm trees.

2.2. Population and Sample

The population of palm farmers in Nagari Sungai Naning and Koto Tangah sourced from survey data conducted during the research down is 176 people. Of the total population will be sampled using Slovin formula as follows:

$$n = \frac{N}{1 + Ne^2}$$

Where :

n = sample
N = total population
e = estimated error rate

From the calculation results using the above formula with a sampling error rate of 10%, obtained a sample of 64 people. Furthermore, the determination of the sample for each study site is determined proportionally according to the number of population in each nagari, that is, as shown in Table 1.

Table 1. Population and Sample

Nagari	Population	Sample
Sungai Naning	145	53
Koto Tangah	31	11
Total	176	64

2.3. Data collection methods

Data collection methods in this study are tailored to each data and data analysis required according to the study design. Data collection methods used in this study are questionnaires, interviews, observations and documents.

2.4. Data Analysis Method

To describe the potential of palm plantation development in Farmers households viewed from: 1). Perception of farmers about sugar palm business; 2). Land availability condition for sugar palm cultivation; 3). Manpower owned for palm crop business; And 4). Experience about palm crop business.

2.4.1. Perception of Farmers about Sugar Palm Business

Sources of perception data come from farmers with data collection methods are questionnaires, interviews and direct observation to land and palm processing. The required data is perception score from farmer about palm business.

Perceptions were analyzed with nonparametric statistics. Perception measurement using Likert Scale, which according to Siregar (2010) that Likert Scale is a scale that can be used to measure attitudes, opinions and perceptions of a certain object or phenomenon.

The Likert scale has two forms of statement: positive and negative statements. Positive statements were given a score of 5, 4, 3, 2, and 1, whereas negative statements were given scores of 1, 2, 3, 4 and 5. Positive statements were given scores of 5,4,3,2 and 1, whereas negative statements were scored 1,2,3,4 and 5. The answer form The Likert scale consists of strongly agree, agree, hesitate, disagree and strongly disagree.

In this study, there were 22 items in the form of positive and negative in balanced proportions and placed at random. The indicator is the opinion of farmers about palm business in the following: 1) Cultivation of palm trees; 2) Processing results; And 3) Marketing.

There are 22 items of statements from indicators related to sugar palm farming. The scale used is as follows:

The highest total score of the 22 statement items made is 110 if the answers of all respondents are correct and the lowest score is 22 if all respondents' answers are wrong. Furthermore, the perception is grouped into 3 (three) categories, namely:

- Not good when the value: 22 - 51

- Medium when the value: 52 - 81

- Good when the value: 82 - 110

2.4.2. Land Availability Condition for Sugar Palm Cultivation

The data is sourced from farmers and documents by methods of data collection through questionnaires, interviews, direct observation to land and place of processing and documentation. The availability of land is analyzed by descriptive statistics. There are 3 (three) aspects of land availability analyzed, namely:

a) Area of land ownership

The required data is the area of land tenure by farmers as measured by hectare (Ha). The land in question is land planted with palm and marginal land / not managed by farmers.

Data were analyzed by using Category Frequency Statistics and presentation in the form of unidirectional tables. Tenure is divided into 3 categories: 1) Land with area <0.5 Ha (less good category); 2) Land with area of 0.5 Ha (medium category); And 3) Land with area> 0.5 Ha (good category).

b) Land conditions for the management of palm crop

The required data is the condition of the land associated with the technical requirements of the planting of the palm is the geographical and physical conditions of the land. Geographical condition data needed is the height of land from the sea surface and the slope of the land, while for the physical condition of the land the required data is the texture and color of the soil. Data were analyzed by using Category Frequency Distribution and presentation in the form of two-way table.

There are 3 (three) indicators of suitable land conditions for palm crops according to the literature are: 1) Slope / slope of land: $\leq 45\%$; 2) Land altitude: 500 - 800 m above sea level; 3) Physical soil: clay is

For items in positive form:	For item in negative form:
5 = strongly agree	5 = strongly disagree
4 = agree	4 = disagree
3 = doubtful	3 = doubtful
2 = disagree	2 = agree
1 = strongly disagree	1 = strongly agree

clay, chalky and sandy.

Based on 3 indicators of the condition of the land then the condition of the land can be divided into 3 namely:

- Good = meet the 3 indicator of land conditions

- Medium = meet the 2 indicator of land condition

- Less Good = meet the 3 indicator of land condition

c) Land Ownership Status

The data required is the status of land tenure by the farmer's household which is classified into 4 (four) namely: own property, use rights, profit sharing, and lease. Data were analyzed by using Category Frequency Statistics and presentation in the form of unidirectional tables.

Land ownership status by farmers is divided into 3 (three) categories as follows:

- Good   = own land status

- Medium   = status of profit sharing and rental land

- Less Good = land use rights status

2.4.3. Manpower Owned for Palm Crop Business

The data were sourced from the farmers by the method of taking it were questionnaires and interviews. The required data is the number of workers in the RT Farmers, age, education, sex, and hours worked with units of hours / day. Frequency Categories Distribution Analysis with presentation in the form of one-way charts is done on the following indicators: number of manpowe r> 2 persons, productive age, minimum primary school education, sex of most men and current working hours less than the standard of men's day (HKP) which is 8 hours / day. All indicators are analyzed using Category Frequency Statistics and their presentation in a unidirectional table. The availability of labor is divided into 3 categories:

- Good = meet the 4-5 of labor related indicator

- Medium = meet the 2-3 of labor related indicator

- Less Good = meet the 1 of labor related indicator

2.4.4. Experience about sugar palm business

The data were sourced from the farmers by the method of taking it were questionnaires and interviews. The required data is the length of time for the head of the family, the training followed, the business cooperation with other parties (apprenticeship / foster father).

The old data attempted, the training that was followed and other forms of cooperation were analyzed by using Category Frequency Statistics and presentation in the form of unidirectional tables. Duration of effort is divided into 3 categories: Old data of effort, training that has been followed and other forms of cooperation are analyzed by using Category Frequency Statistics and presentation in the form of unidirectional table. Long try to be divided into 3 categories, namely: 1) Length of effort <5 years; 2) Length of effort 5 to 10 years; And 3) Length effort > 10 years.

3. Results and Discussion

3.1. Perception of Farmers about Sugar Palm Business

The result showed that most of respondents (89.06 percent) had perception which was in medium category. Respondents with good perceptions category only 10.94 percent. However, none of the respondents whose perceptions fall into the unfavorable category. These results indicate that palm business in the farmer's view is a mediocre or undistinguished endeavor. The complete results of perceptions of respondents on palm business can be seen in Table 2.

Table 2. Perceptions of Respondents on Palm Sugar Business

Category	Score	Respondent	
		Total	Percentage
Less Good	22 - 51	0	0.00
Medium	52 - 81	57	89,06
Good	82 - 110	7	10,94
Total		64	100

The view of farmers to palm business is mediocre, but it has long been done. This is allegedly caused by: 1) Limited types of work that can be done because of low education level; 2) The hilly topography of the area leads to the limited agricultural business of high economic value that can be done by farmers because of the prone land with erosion and landslides; 3) Sugar business does not require large capital because the sugar palmation is readily available; And 4) To start a business sugar does not require special skills so that it can be learned by anyone who wants to run it.

From the results of the above analysis, it can be concluded that from the perception side, palm farmers in Bukik sub district potential is medium or mediocre. Seen differences between respondents with good and medium perceptions in terms of: 1) Cultivation of palm trees (nursery and spacing); 2) The process of tapping nira (the treatment of palm trees and maintaining the quality of sap); 3) Processing (cleanliness of equipment and place of processing and way of processing); 4) The existence of marketing institutions.

Although the perception of most respondents is not mean it will hamper the development of palm trees in the future because perception is not a passive thing. Because perception is not a passive thing, it can be improved from being good, that is to say, from a mediocre business to something special. This can happen because perception can be formed through the

process of learning, the expectation, attention and others.

Perception is related to the stimulus that comes from within the self and the individual environment. Relating to that coming from within the individual include feelings, experiences, ability to think, and frame of reference. This is in accordance with the opinion of Davidoff (1981) in Walgito (2003) that: With perceptions individuals can be aware, can understand about the circumstances surrounding environment, and also about the individual circumstances of the individual concerned. All that exists within the individual such as feelings, experiences, thinking skills, terms of reference and other aspects of the individual will play a role in that perception.

By providing the same stimulus and the same frame of reference is expected to give the same perception to the sugar palm farmers. This expectation assumes that the ability to think is equal because most have the same education. Similarly, experience in aren business can be considered the same because most have experienced more than 10 years.

3.2. Land Avalability Condition for Sugar Palm Cultivation

3.2.1. Area of land ownership

The area of land tenure is measured by hectare (Ha). Land in question is land that is controlled by farmers in which there are palm trees and marginal / unmanaged land. The width of land tenure in Farm Household can be seen in Table 3.

Table 3.2.1 Area of Land Tenure of Palm Sugar Farmer in Bukik Barisan

Land size (ha)	Respondent	
	Total	Percentage
< 0.5	13	20,31
0.5	25	39,06
> 0.5	26	40,63
Total	64	100

Table 3.2.1 shows that only a small percentage of respondents (20.31 percent) have less than 0.5 hectares of land or poor land category because they are smallholders. These respondents did not have any special land for palm trees. The palm trees they grow grow around their homes. Respondents with this

category rely heavily on other people's palm trees to be processed into sugar with a profit-sharing system.

Respondents with land area of 0.5 Ha or moderate land category is quite a lot of 39.06 percent. Respondents in this category have palm-planted land, most of the land is located in the vicinity of their residence. Similar to the previous category of respondents, respondents with this category also rely on other people's palm trees to be processed into sugar with a profit-sharing system because the amount of arennya plants are also limited.

Thus, it can be concluded that the condition of land tenure by farmers' households today is quite good. Such a condition of land tenure has the potential to support the optimal management of palm oil in Kabupaten Lima Puluh Kota. The potential can be optimized through the arrangement of palm spacing with monoculture system (plant spacing 6 x 6 m) and polyculture (spacing 16 x 6 m). By optimizing the potential of the land through cultivation and planting spacing, the land with an area of 0.25 Ha has the potential to be planted with aren 25-60 stems, so that 1 ha of land has the potential to be planted 100-240 bar. While the current land with an area of 0.25 hectares is only planted 10 - 20 palm stems and land with an area of 1 ha planted 8 - 100 palm stems. Even the widest area (5 Ha) only planted about 100 palm stems.

Apparently most of the respondents (40.63 percent) have land > 0.5 Ha or good land category because with such land area they are not classified as small farmers. Respondents with this category have a garden in the form of palm trees and other plants such as chocolate and others. There are some nearby and far enough from where they live. Respondents in this category rely more on their palm trees to be processed into sugar. Some of them also cultivate other people's palm trees with a profit-sharing system, but not because of the limited amount of arable crops. Farmers in this category are usually asked by the owner of palm trees that have no expertise to process their palm plantation.

Thus the availability of land is not a major problem for most of the research respondents to run the business sugar palm. The problem lies in the utilization of land that has not been optimal. Very different from what happens in wetland, where availability is very limited, so most of the respondents do farming with rice paddy production system. Likewise for other farming areas, availability is also limited because most

of the land is at a slope of more than 15% which is prone to erosion and landslides.

3.2.2 *Land conditions for the management of palm crop*

Geographically Bukik Barisan District is in the hilly area with a height of 550 - 750 meters above sea level. With the condition of the land at that altitude, the potential for the development of palm trees, this is in accordance with the opinion of Sunanto (1993) that the palm trees can grow well and able to produce in areas of fertile soil at an altitude of 500 meters to 800 meters above the surface Sea and Akuba (1993) in Bernhard (2007) argued that the growth of good palm trees is at an altitude of about 500 - 1,200 meters above sea level.

Land conditions in Kecamatan Bukik Barisan are mostly suitable for the growth of palm trees. Sufficient land area with a slope of 15 s / d 40% (7,355 hectares) is suitable for planting palm trees because its morphology has a shallow root system and widened, dense leaves and stem covered with fibers, can be used as to overcome the problem of soil erosion and landslide. This is consistent with the opinion of Lasut (2012) that palm trees with shallow and wide roots are very useful to prevent soil erosion. Similarly, the leaves are quite dense and the stems are covered with a layer of fibers, will be very effective to withstand the drop of rain water directly to the soil surface. Besides it will be very good as erosion and landslide prevention tree.

Other agricultural crops such as food and horticulture are less suited to land slopes of more than 15% due to lands prone to erosion and landslides. Conversely, palm trees can be used as a conservation plant to cope with erosion and landslides due to its highly effective morphological properties to withstand rainfall directly to the soil surface.

When viewed from its nature, the land contained in Bukik Barisan Sub-district physically (texture and color of the soil) belong to 3 types of soil clay, clay, sandy clay clay and sandy clay. The color of the soil is blackish, yellowish and rather whitish (white sand). The condition of this soil is quite good because it is suitable for the place of the growth of palm trees as Sunanto (1993) argues that palm plant does not need special condition, so it can grow on clay, chalky and sandy.
From the results of the above analysis, the condition of the land in Bukik Barisan sub-district is good because

it meets 3 indicators of suitable land conditions for palm trees. Land conditions that are categorized as good support for the management of palm plant business is optimal.

Not optimal land management can be seen from several things: 1) Most of the land is still overgrown with shrubs; 2) Agricultural crops other than sugar palm are also poorly maintained such as chocolate, cloves and others, so it has not contributed significantly to the increase in family income; 3) Not yet cultivated palm plants causing spacing irregularly.

Indeed, the use of land for palm trees can be optimized by adjusting the spacing. From the results of interviews, most respondents argued that palm trees can grow well with a spacing of 6 x 6 meters. This opinion is in accordance with the opinion Lasut (2012) that the spacing of palm trees monoculture is 5 x 5 m or 9 x 9 m.

As an illustration, if optimized the utilization of land area of 0.25 Ha in monoculture with a spacing of 6 x 6 m, then on the land can be planted approximately 60 stems of palm trees. So that 1 Ha of land can be planted more less 240 stems of palm trees. If the palm trees are planted in a polyculture using a wider range of rows, for example with a distance of 16 x 6 m, then 0.25 Ha of land can be planted approximately 25 palm trees, so that 1 ha of land can be planted less than 100 palm rods. Currently the land with an area of 0.25 hectares is only planted 10-20 palm rods and land with an area of 1 ha planted 8 - 100 palm rods. Even the widest area (5 Ha) only planted about 100 palm stems.

From the results of observations and interviews with respondents, polikurtur in between palm trees can be planted with coffee or mangosteen fruit that is useful as preservatives nira or other forestry crops that can be used as fuel for cooking sap. This is in accordance with the attachment to Regulation of the Minister of Agriculture of the Republic of Indonesia Number 133 / Permentan / OT.140 / 12/2013 About Good Selling Areman (MERR) Arangga pinnata, it is stated that intercropping crops that can be cultivated are forestry crops, , Horticultural crops are productive and in accordance with the plant palm. The planting of forest intercropping crops that serves as a producer of firewood is very supportive in the processing of sap.
Optimizing the land through planting spacing, meaning to participate in realizing the program of land intensification owned by farmers through the cultivation of palm trees effectively and efficiently.

Intensification of land for palm trees is expected in the future to support the availability of sustainable livelihoods for sugar palm farmers in Kabupaten Lima Puluh Kota. This is in line with the opinion of Scones (1998) which states that sustainable livelihoods are achieved through access to various life resources (natural, economic, human and social capital) combined in the pursuit of different livelihood strategies (agricultural intensification or extensification, And migration).

Optimization of land use through the cultivation of palm trees, is expected to overcome the problem of poverty with the availability of palm trees that can be tapped in a sustainable manner. This has the potential to provide sustainable livelihoods for farmers in Lima Puluh Kota District. This is supported by the nature of palm trees that can grow well in hilly areas. Palm trees can also be planted in between forest plants so that the land needed for sugar palm cultivation does not need to burn the forest, so the environment remains in balance. This step is in line with Munasinghe's (1993) opinion which states that efforts to overcome poverty always consider the aspect of sustainability. One of them is by implementing sustainable household livelihood strategies, which are closely related to a range of issues covering a broader debate about the relationship between poverty and the environment.

3.2.3. Land Ownership Status

The results showed that all respondents (100 percent) own land with their own status, while the status of land use rights, profit sharing and rental are not found in this research. That is, the status of land tenure has the potential to support the optimization of palm sugar business management in Lima Puluh Kota District. Thus the development of sugar palm business can be done at the level of farmers because all the palm farmers have land with their own status. In addition, for the development of aren business does not require investors who generally buy land for business development.

3.3. Manpower Owned for Palm Crop Business

Labor conditions in the farm households analyzed are: a. Total manpower; b. Age of family head ; c. Education of family head; d. Gender; e. Working hours.

3.3.1. Total Manpower

The results showed that most respondents (87.50 percent) have a workforce in the family amounted to ≥ 2 people. The minimum number of labor is owned by the farmer household is 1 person and the most is 6 people.

Most of the farmers (65.63 per cent) have a labor force of 2 persons (medium category) who come from children / in-laws / parents / in-laws from household heads living together in farm households. The family workforce helps in the processing of sugar palm, but some also work as farm laborers, sewing and others to supplement family income. In palm processing, work is usually to help cook sugar into sugar, wrap sugar and look for firewood. A small part helps in the process of tapping the palm trees done by the child / nephew of a man.

The result of the analysis shows that the average number of worker in family in the household of sugar palm farmer in Bukik Barisan sub-district is 3 people, generally consist of head of household, wife and children. Wife and child play a role in cooking sugar into sugar, wrapping sugar and helping to find firewood.

From the results of the interviews it is known that most of the respondents stated the availability of sufficient manpower in running the business today. They stated that the availability of manpower still supports for tapping aren 10 to 15 cigarettes a day, if solely to run only business palm. While currently the maximum amount of palm trees are tapped new 8 cigarettes / day. This means that the availability of manpower (currently ≥ 2 people) support to optimize the management of palm sugar business.

3.3.2. Age of family head

The results of analysis on the age of sugar palm farmers in Kecamatan Bukik Barisan showed that the youngest age is 17 years old and the oldest is 72 years. Most of the respondents (62.49 percent) were in the potential age group (age group 15 - 50 years). This means that in terms of age, sugar palm farmers in Bukik Barisan Sub-district classified as productive labor. This strongly supports the step to optimize the management of palm sugar business.

3.3.3. Education of family head

The results showed that most of the respondents (51.56 percent) only finished primary school. Respondents did not complete elementary school is also large enough that is 26.56 percent. Respondents who graduated from junior high school and senior high school were very small at 12.50 percent and 4.69 percent, respectively. This means that the level of education palm farmers who become respondents research is low.

Allegedly because the level of education is still low, palm farmers in Bukik Barisan Subdistrict is less responsive and proactive to changes and technological developments related to the aren their business. However, from the results of the research can be seen that they are quite open to changes and technological developments if there are parties who are willing to facilitate. Besides, they argue that aren business can be run with low cost and earning can be obtained daily. Earnings can be obtained daily because the palm tree should be tapped every day. This is related to the nature of sap that stops flowing if not tapped every day. Allegedly this condition that gives the spirit of farmers to keep running aren business because there is always hope every day from drip nira they tapped. This is in line with Rachman (2009) who argues that the nira that always drips daily seems to give farmers confidence that life will continue to flow if we keep working.

The nature and advantages of palm trees and its management that can be done by almost all society including those who have low education level. Thus, palm trees are one of the natural resources that have the opportunity to be used as a sustainable livelihood for farmers who mostly have low education level. This opportunity has the potential to overcome unemployment and poverty problems if managed optimally.

Thus, the level of education of farmers who mostly finished primary school enough to support to optimize the management of sugar palm business because this business does not require high formal education to do so. Although only finished primary school, but the farmers are very open to innovation related to the business of palm crops delivered to them.

3.3.4. Gender

The results showed that male laborers were more numerous (53.19 percent) than female laborers (46.81

percent). The process of tapping palm sugar is done by men. Information obtained from the respondents, as long as there has never been a woman who tapped sap. Female labor plays a role in cooking sap, wrapping sugar and looking for firewood.

Women workers are mostly wives of respondents, besides their daughters. For male labor is the child / nephew of the respondent. From the results of the interviews, the current labor conditions are sufficient for tapping palm trees 10-15 stalks daily if the availability of palm trees supports. Currently, the largest number of palm trees that are tapped is only 8 cigarettes.

In essence palm business can be done regardless of gender, except in the case of tapping. However, in the future, it is not possible for women workers to tapping process with innovation of equipment to tap. Through these tapping equipment innovations provide equal opportunities for every workforce regardless of gender.

Thus, the availability of labor by sex supports to optimize the management of sugar palm business because it mostly consists of male labor. Male labor is very supportive to optimize the number of palm trees are tapped because only the male labor that can tap the palm trees.

3.3.5. Working hours

Working hours for palm business, if done alone by the head of the family ranging from tapping to cooking takes 7 - 9 hours a day. The number of working hours for sugar palm business is influenced by: 1) The distance of the palm plantation from the farmer's residence; 2) The distance between palm trees are tapped if tapped more than 1 palm plant; 3) The number of palm trees that are tapped daily; 4) The amount of juice cooked. With the help of family labor then working hours for palm business ranges from 2-4 hours only. With the help of this family workforce, sugar palm farmers can do other business such as rice field farming, chilli, chocolate, coffee, tobacco, tobacco mixing and become farm laborers with hourly wages. Palm business working hours are generally less than other business hours.

Business hours of palm sugar are needed to cook sugar into sugar until put into mold about 4-6 hours / day, tapping 1 - 2 hours / day and looking for firewood 1 hour / day. Time for cooking juice can still be used

by farmers to do other jobs because cooking sap should not be waited until the juice reduced its water content to some extent.

This is where the role of female laborers in cooking sap. It turns out that the effective working hours for sugar palm business is less than working hours for other businesses. This can be seen from the results of research indicating that most respondents are 53 people allocation time for aren business is greater than other businesses.

From the research results it is known that the average time allocated by respondents for aren business is 3.02 hours / day and the average time allocation for other businesses is 4.33 hours / day. The average time allocated by respondents to try in a day is 7.34 hours / day. These results indicate that the majority of respondents allocate their time to work is still less than 8 hours / day. That is, most respondents have not meet the standard one-day man work (HKP) is 8 hours effective / day.

This means working hours palm sugar can still be optimized to support the development of palm business. It can be concluded that the potential development of palm oil from the labor side is categorized as good because it meets 4 labor-related indicators, namely: 1) Age of the head of the family including the productive age group; 2) Education of most farmers at least primary school level; 3) Most of the labor force consists of male laborers; And 4) The working hours of most farmers are still less than 8 hours / day.

3.4. Experience About Palm Crop Business

3.4.1. Long running business

The results showed that most respondents (64.06 percent) have more than 10 years experience in running aren business (good category). Furthermore, respondents who have more experience 5 to 10 years (medium category) is 23.44 percent. Respondents who have less than 5 years experience in trying to palm a small amount of 12.50 percent.

That is, in terms of time, the research respondents have experience in running aren business (experience is quite good). The main expertise in palm business is that matters relating to wiretaps have been mastered by the respondents, where this skill is only gained through experience along with the length of the business. The

other main thing has not been mastered is about the cultivation of palm trees. Unlike the case with the process of tapping, cultivation of palm trees can be studied in a shorter period of time. This means that the experience of most respondents who more than 10 years potentially support the process of optimizing the management of palm trees.

3.4.2. Education and Training / Seminars Never attended

The results showed that respondents who have attended education and training / seminars related to aren business amounts are very small (9.37 percent). The training that has been followed is the ants sugar processing training held by the Government of Lima Puluh Kota and West Sumatera Provincial Government. These respondents are incorporated into the Saiy Farmer Farmer Group that has been producing Sugar Ants Sugar with the brand of Gulasan located in Jorong Apar Nagari Sungai Naning. This farmer group has received guidance from Dinas Perindustrian at the district and provincial levels and has received equipment assistance related to the sugar ant business. However, the process of making ants sugar is not done by heating palm juice until it becomes the sugar ant, but by reprocessing the sugar print into sugar ants. Good quality ant sugar comes from palm juice that is maintained in quality during the tapping process. While in the manufacture of sugar printing, although niranya has reduced quality, can still be formed into sugar print. Thus the quality of ant sugar from the two different processes is of course different too. Thus, the way of processing ants that have been done now in Bukik Barisan Subdistrict still can be optimized in quantity and quality. In quantity can be done by intensifying the introduction, guidance and assistance to the farmers in the processing of ant sugar. In quality, it is very important to build and assist farmers in the process of tapping nira to maintain the quality of sap, in order to produce sugar ants with export standards. In terms of quality improvement, including also in terms of packing ant sugar products.

4. Conclusions

1. The perception of farmers is quite supportive for the development of palm plantation business, although most of the farmers in Kabupaten Lima Puluh Kota

have medium perception and few perceptions are good, but they look very open to accept innovation. Evident from some people who have attended training and seminars related to aren business has practiced such as cultivating and producing sugar ants. This shows that from the psychological and social aspect it is not difficult to apply various palm-related innovations for them.

2. The availability of land has the potential to support the development of palm sugar business in Kabupaten Lima Puluh Kota. This can be seen from 3 aspects of land availability, namely: 1) Area of land ownership included in either category; 2) Land / soil condition including good category; And 3) Land ownership status in good category.

3. The availability of labor supports for the development of palm sugar business because it is categorized as good because: 1) Age of the head of the family that included the productive age group; 2) Education of most farmers at least primary school level; 3) Most of the workforce consists of male laborers; And 4) The working hours of most farmers are still less than 8 hours / day.

4. The respondent's experience about sugar palm business has the potential to support the development of palm sugar management because the experience of farmers about sugar business is good in terms of: 1) Length of effort, where most respondents (64.06 percent) have experienced more than 10 years in the palm oil business; 2) In terms of attending training / seminars related to palm business is only a small percentage of respondents (9.37 percent) who have attended the training, but they have begun to apply the knowledge obtained in developing the business of arennya crop. This can be seen from the farmers who have been doing the cultivation of palm trees and who have been producing ant sugar.

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