

Feasibility of the Core-Plasma Partnership in the Perspective of Sugarcane Farmers in Pekat District, Dompu Regency, Indonesia

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ABSTRACT

With the increasing demand for national sugar, the expansion of sugarcane cultivation areas outside Java has been carried out through the development of the Inti-Plasma partnership between PT Sukses Mantap Sejahtera (SMS) and vicinity farmers in Pekat District of Dompu Regency. The study was conducted to identify the feasibility of this sugarcane partnership from the perspective of farmers in terms of financial feasibility. This research was conducted in Pekat Subdistrict, Dompu Regency, where PT SMS is located. Two villages of Sorinomo Village and Bringin Jaya Village were chosen by using purposive sampling, considering the highest number of farmers and area of sugarcane farms. Then, the number of respondents from two villages was determined by Slovin's formula based on the partner sugarcane farmer population in the two villages. The number of respondents was 51 farmers who were proportionally randomly selected, comprising 27 farmers in Sorinomo Village and 24 in Beringin Sila Village. The results showed that this partnership is worth continuing because it provides high profits to sugarcane farmers. The partnership has been going very well and is very likely to continue. However, farmers still face some problems with late payments, damaged/dead seeds, pests and diseases, destructive animals, lack of counseling, and labor shortages during harvesting.

INTRODUCTION

Sugar is a strategic and staple food as the primary source of calories and sweeteners, and its consumption tends to increase yearly [22]. As a result, national sugar demand continues to rise along with the increase in population and the development of the food and beverage industry, hotels, and restaurants [13, 23]. Efforts to develop the sugar industry are very dependent on the availability of main raw materials, called sugarcane [2, 24]. Therefore, expansion of the sugarcane (*Saccharum officinarum* Linn) planting area is a must [1] [3].

Government efforts to achieve sugar self-sufficiency have been carried out through some policies. The policies are the introduction of the People's Sugar Cane Intensification (TRI) to encourage increased production, rehabilitation, and expansion of sugar factory capacity in Java, construction of new factories outside Java, and stabilization of sugar prices in the country. Of the various efforts, one strategy to increase sugar production is developing sugarcane areas outside Java [14] [26]. In order to achieve sugar self-sufficiency as well as to improve welfare of sugarcane farmers, several policies have been promoted, such as the development of production facilities, institutional development, integration of sugar factories and sugarcane farmers, and increasing productivity and competitiveness of the sugar industry.

The sugar industry in Indonesia involves various parties, including the Government, sugar factories, and farmers. Currently, the production capacity to fulfil the domestic demand for sugar is far from sufficient. The majority of sugarcane farmers and area (about 90%) are on the island of Java and contribute more than

50% of national sugar production [10]. The province of Nusa Tenggara Barat, especially the Dompu Regency, is considered one of the important areas for expanding the sugar industry in Indonesia since the area poses very suitably agroclimatic conditions for sugarcane cultivation. In the last six years, a core-plasma partnership has been developed between a private company of PT Sukses Mantap Sejahtera (SMS) and vicinity sugarcane farmers in the district of Pekat in order to increase production and productivity to ensure the availability of sugar cane raw materials for sugar production of SMS as well as to increase the income and welfare of sugarcane farmers.

SMS is a private company engaged in planting, processing, and marketing that produces white sugar and by-products in bio-ethanol, organic fertilizer, and animal feed. The presence of PT SMS with the motto “Developing Eastern Indonesia Through Integrated Sugar Cane Plantations and Sugar Mills” is expected to improve the welfare of partner farmers or their plasma. This partnership is intended to provide benefits for the partnering parties that are to increase the productivity of the company and foster farmers to encourage efficiency for both parties through the sharing of resources and skills. These will, in turn, impact guaranteeing quantity, quality, and business continuity for both companies and farmers. At the same time, it can also reduce the risks faced by both parties [6]. The risks transferred by the company to plasma farmers are (1) the risk of production failure, (2) the risk of failure to meet production capacity, (3) the risk of investment in land, (4) the risk due to the management of extensive agricultural land, and (5) the risk of labour conflict. Meanwhile, the risks transferred by plasma farmers to companies are (1) the risk of failure to market agricultural products, (2) the risk of price fluctuations, and (3) the risk of difficulty in obtaining essential inputs/production resources. In addition, this kind of partnership may have positive social impacts, especially for the vicinity community, and increase national economic resilience through increasing people economic welfare. Building the partnership must be based on three main principles, mutual understanding, agreement, and collective action.

To get an acceptable form of partnership it is necessary to develop a partnership model by incorporating aspects of profitability, prospects for business independence, harmonization of relationships partnerships, and business continuity [19]. From the farmer’s perspective, the decision to become a partner of the company is to gain considerable profit and efficient management of their limited resources. They may cooperate and continue their partnership if it provides some essential benefits. A partnership model between farmers and industries is expected to give advantages in technical, social, and economic aspects [18]. However, some studies found positive impacts of that kind of partnership. For instance, sugar cane farmers who access KKP-E credit or financial aid for smallholder sugarcane farmers through partnership program can increase production and profits of sugar cane per hectare [8].

Compared to farming traditional crops such as corn, sesame and peanuts, farming income from sugar cane is more profitable and has lower risks and fluctuations in sugarcane commodity prices especially when they join partnership program. However, that is not always the case due to different conditions and locations, which may affect the Thus, this study examines the financial viability of the partnership between sugarcane farmers and PT. SMS from the farmer’s perspective.

METHODS

The research method used in this study is the descriptive analysis method, which is a method that focuses on solving problems that exist in the present. The data collected is first compiled, explained, and then analysed [12]. Data were collected by using interview techniques (surveys) how to collect data from a number of individuals (respondents) within a certain period by referring to a list of questions prepared in advance [11].

This research was conducted in Pekat District, Dompu Regency. Determination of the location of the sample and respondent farmers was carried out by multistage random sampling. of the 12 villages in Pekat Subdistrict, there are ten villages that are domiciles and places for partner farmers’ sugarcane plantations. Of

the ten villages, two villages were selected, namely the village of Sorinomo and the village of Bringin Jaya, by “purposive sampling” (deliberately) with the consideration that these two villages have the most sugarcane farmers and the largest sugarcane production area. Furthermore, to determine the sample size of the population used, Slovin’s formula. With the use of a margin error of 10% and the total population of sugarcane farmers of 211 from the two villages that have partnerships, a sample of 51 people is obtained, which is proportionally distributed in two selected villages, namely Sorinomo Village with 27 farmers and Bringin Sila village with 24 farmers.

In this study, the types of data used are quantitative data and qualitative data. Qualitative data is data that cannot be measured by numbers, such as obstacles in farming and others. Quantitative data is data that is measured by numbers, such as the number of products sold, prices, sales values and others. The variables measured and used in this study comprise the partnership pattern between PT SMS and the fostered sugarcane farmers and the financial feasibility for the farmers obtained from the analysis of costs, production, and prices received. The problems farmers face in this partnership were also identified. Data were analysed using the profit function and the Break-even point approach. The constraints referred to in this study are the obstacles faced by sugarcane farmers, including technical and economic barriers.

Data analysis was carried out with cost and profit analysis (profit function) and profitability, Revenue Cost Ratio, and Break-Even Point (BEP) analysis based on output, price, and revenue. Meanwhile, partnership patterns and constraints in partnership relationships were analysed descriptively.

RESULT AND DISCUSSION

Characteristics of sugarcane farmers

Farmers’ characteristics are an essential part of a study to determine the general condition of respondents, which reflects their resource capacity and potential to increase their income and welfare. The characteristics of respondents in sugarcane farming in Pekat Subdistrict, Dompu Regency, are seen from the aspect of age, education level, number of dependents of the family, and the area of land controlled.

In terms of the age aspect, the average age of the respondents in this study was 45 years, with a range of 15-64 years which falls in the category of productive age, meaning that they were physically and mentally able to carry out sugarcane farming activities. Furthermore, judging from the level of education, the average respondent has an education level of junior high school and below as much as 43 percent and with high school education and higher education of 57 percent, which means that the education of this sugarcane farmer is relatively good. On average, the respondent has three dependents, with a range of 1-6 people who fall into the medium level of family dependents. The average land area owned/controlled by farmers is 1.28 hectares, with an area ranging from 0.17 to 5 hectares, but most of the respondent farmers (80.39 percent) have a land area of between 1-2 hectares, namely 41 people (80.39 %). This situation shows that the respondent farmers in Pekat Subdistrict are classified as large farmers because their land tenure is more than 0.5 ha.

A Brief Information on SMS

The land area belongs to SMS is about 1000 out of 5500 hectares planned to have in the future. Sugarcane farming area from farmer partner has reached 1700 hectares involving about 1400 sugarcane farmers. That is a strategic way to directly increase the productivity of the local community and the welfare of the people of Dompu Regency [3].

In order to support the Government’s program with the slogan “Let’s Work” in creating a productive climate, PT. SMS has provided seed grant assistance to Partner Farmers, Land Clearing assistance, and

technical assistance for sugarcane cultivation. Tambora Sugar Estate Factory is designed with a capacity of 5,000 tons cane/day and can be expanded to 10,000 tons cane/day. The construction was started in March 2014, and since 2016 has been able to do sugar milling. Tambora Sugar Estate, when operating, can create jobs and is estimated to be able to absorb 500 people for the core sector and $\pm 3,000$ people for the supporting sector. In addition, it can directly improve the economy in some sectors such as agriculture, transportation, buildings, finance, trade, taxes, and services in the Dompu regency.

The Government and SMS provides technical training and assistance in fertilizers, medicines, seeds, and technology such as tractors and capital assistance for land processing. So that sugarcane production can run well, increase farmers' income and standard of living, and achieve national sugar self-sufficiency or reduce dependence on sugar imports. In 2017, PT SMS started exporting sugar with the hope that it would become a new economic pillar, especially for the Eastern part of Indonesia.

Cost and Profit Analysis of Sugar Cane Farming

Structure of Production Cost

Production costs of sugarcane farming consist of variable and fixed costs. Variable costs are costs that are large or small and are influenced by the production obtained. Variable costs include input costs and labor costs. In contrast, fixed costs are costs that are relatively fixed in number regardless of outputs [4]. Fixed costs include equipment depreciation costs and land taxes. Table 1 presents the cost structure of sugarcane farming in the Pekat District of Dompu regency, Indonesia.

Tabel 2. The cost structure of sugarcane farming in the district of Pekat, Dompu Regency Indonesia

No	Item	Value per hectare (Rp)	Percentage (%)
1	Variable cost	11,677,033	78,50
	Seeds	–	
	Fertilizer	633,611	
	Herbicides	122,884	
	Labor	6,947,272	
	Transportation cost	3,973,266	
2	Fixed cost	3,196,522	21,50
	Land rent	3,000,000	
	Tax	70,042	
	Depreciation	126,480	
3	Total cost	14,873,555	100,00

Variable costs are costs that are influenced by the size of the production costs obtained. In this study, variable costs are the costs incurred by farmers for procuring seeds, fertilizers, pesticides, labour, and other costs used in sugarcane farming. It can be seen in Table 2 that the variable cost incurred by the sugarcane farmers was Rp. 11,677,033 / ha, and the lowest variable cost is the cost of pesticides, which is an average of Rp. 122,884 per hectare. The use of pesticides is the lowest cost because, in the research area, respondent farmers do not spray pesticides too much with the assumption that the biggest threat to their sugarcane

farming is nuisance animals (pigs, monkeys, rats), not pests and diseases.

The cost of production facilities is the number of costs incurred by farmers to procure fertilizers and pesticides used in sugarcane farming. Table 2 shows details of the cost of production facilities incurred by farmers in sugarcane farming. In Table 2, production facilities that require the highest costs are the costs incurred for procuring fertilizers with an average of Rp. 1,229,951 per arable area or Rp. 633,611 per hectare. Sugarcane farming requires more fertilizer than other farms.

The highest variable cost in sugarcane farming in Pekat District is the labor cost, which is Rp. 13,485.881 Expand tilled land or Rp. 6,947,272 per hectare. The average other costs incurred by respondent farmers amounted to Rp. 7,708,137. Expansion of arable land while the average other costs incurred by farmers per hectare were Rp. 3,973,266. It is because, during their farming activities, respondent farmers require more labour than other activities, so the costs incurred by farmers are more in these activities.

The use of labour that costs the most in sugarcane farming in Pekat District, Dompu Regency is the use of labour for land processing. The average cost incurred for processing the largest land is Rp. 2,833,333 per arable area or Rp. 1,459,596 per hectare. No partner farmers use labour in the family for land cultivation.

Labour is one of the determining elements and is a production factor that has a vital role in the production process. The amount of labour required depends on the type of commodity being cultivated, the level of technology used, the nature of the farm, topography and soil, so it will affect the number of costs that farmers must incur. In this study, the number of workers both within the family and outside the family was taken into account.

Other costs in this study are the costs incurred to rent equipment used by sugarcane farmers for post-harvest handling, so they are taken into account in the study. Based on Table 4.6. it can be seen that the average cost of renting a car (truck) that transports sugar cane from the cultivated land to the company is a cost with an average cost of Rp. 7,708,137 or Rp. 3,970,266 per hectare. The transportation cost component is the cost incurred for transportation from the land to the factory. Transportation generally uses trucks, and the number of transportation costs depends on the amount of harvest.

Fixed costs are costs that are relatively fixed in number and continue to be issued even though the product obtained is large or small. In this study, fixed costs are depreciation costs, taxes, and others.

Every use of specific tools for production activities will inevitably experience depreciation, namely the loss of economic value during the period of use. The depreciation value of agricultural equipment is calculated using the straight-line method, namely the purchase value less the residual value divided by the length of use.

In Table 2 above, the average depreciation cost of respondent farmers' tools in sugarcane farming was Rp. 245,518 per arable area or Rp. 126,480 per hectare. The highest depreciation cost per arable area was on shadings, with an average value of Rp. 168,627 or 86,869 per hectare, while the lowest depreciation cost per arable area was on the crescent with an average value of Rp. 15,253 or 7,858 per hectare. It is because, in the research area, weeding rarely uses this tool. The depreciation costs are determined by the number of tools used, the price of the equipment, the salvage value, and the service life.

Production, Revenue, and Profit of Sugar Cane Farming

This study's production is the amount of sugarcane produced by respondent farmers in tons. Production value (Revenue) is the amount of sugarcane production (Tons) multiplied by the price per tonne expressed

in rupiah. Income is obtained from the difference between production value and production costs with production costs in sugarcane farming. For more details, see Table 3.

In Table 3 above shows that the average sugarcane production achieved by respondent farmers in the research area is 164,078 tons, expanding arable land or 84,576 tons per hectare—the results of sugarcane production in Pekat District, Dompu Regency. The average production value obtained by respondent farmers in sugarcane farming is Rp. 65,631,200 per arable area or Rp. 33,830,400 per hectare with an average price per Ton of Rp. 400,000. The size of the production value depends on production and the product price. The more production produced, followed by the high selling price of the unit product, the greater the production value. On the contrary, the less the number of products produced and the lower the selling price, the lower the production value. Thus the size of the production value will significantly affect the income received by farmers.

The average income obtained by respondent farmers per arable area is Rp. 42,587.116 or Rp. 21,956,845 per hectare, the income level from sugarcane farming is influenced by the number of production costs sacrificed and the production value obtained besides the price factor at the time of sale also affects the income of sugarcane farming. In the research, the price of the product was negotiated before farming was carried out and implemented, namely Rp. 400,000 per Ton. Sugarcane prices in Pekat sub-district, Dompu Regency.

Financial Feasibility Analysis of Sugarcane Farming

Financial analysis is an analysis in which a project is viewed from an individual point of view. It is not necessary to pay attention to whether the effects or impacts on the economy are broader in scope. The Return Cost Ratio (R/C–Ratio) technique is one way to calculate farm efficiency. R/C-ratio is a technical assessment of farmers' decisions and the possibility of developing the commodity, which can be found by total revenue with total costs [24]. In addition, how to determine the feasibility of sugarcane farming in Pekat District, Dompu Regency by using BEP. The BEP analysis shows the amount of production, the price of production, and revenues that make the business break even. The analysis of BEP and R/C-ratio in this study can be seen in Table 3.

A break-even analysis will provide fodder for considerations such as price and cost adjustments. It can tell whether a farmer may need to borrow money to keep a business afloat until profits are obtained or whether the endeavor is worth pursuing at all. A break-even analysis is a financial calculation that weighs the costs of a new business, service, or product against the unit sell price to determine the point at which it will break even. In other words, it reveals the point at which it will have sold enough units to cover all of its farm costs. At that point, the farmer will have neither lost money nor made a profit.

The formula considers fixed and variable costs relative to unit price and profit. Fixed costs remain the same regardless of the product or service sold. Examples of fixed costs include facility rent or mortgage, equipment costs, salaries, interest paid on capital, property taxes, and insurance premiums.

Variable costs rise and fall according to changes in sales. Examples of variable costs include direct hourly labor payroll costs, sales commissions, and costs for raw materials, utilities, and shipping. Variable costs are the sum of the labor and material costs it takes to produce one unit of your product.

Based on Table 3, the average profit of sugarcane farming in the Pekat District of Dompu Regency is Rp. 42,587.116/LLG or Rp. 21,956,845/Ha. The amount of profit for farmers depends on the number of products produced, the value of production, and the total production costs incurred by farmers in running their farming.

Tabel 3. Financial feasibility of Sugarcane farming through a partnership program with PT SMS in Pekat District of Dompu Regency

No	Item	Per Hektar
1	Output (Ton)	84.576
2	Price (Rp/Ton)	400.000
3	Revenue (Rp)	33.830.400
4	Total cost (Rp)	11.873.555
5	Variable cost(Rp)	11.677.033
6	Fixed cost (Rp)	196.522
7	Profit (Rp)	21.956.845
8	BEP price (Rp/ton)	140.389
9	BEP output (ton)	0,624
10	BEP Revenue (Rp)	300.034
11	R/C	2,85
12	Profitability(%)	185

The profit referred to in this study is the difference in revenues minus the total production costs (expenditures) in sugarcane farming.

Feasibility analysis includes two things, namely, R/C and BEP (Price, Production, and acceptance). Based on Table 3. above, it can be seen that the BEP value of revenue is Rp. 582,290/LLG or Rp. 300,034/Ha, and the BEP of production is 1,622 Tons per arable land area of Rp. 0.624 Tons per hectare. Using the BEP, when the revenue obtained from sugarcane farming is greater than the BEP value, it is said to be feasible to develop. Farming is also feasible when the farmer's production is greater than the production BEP. so with this assumption, sugarcane farming in Pekat District, Dompu Regency is very feasible or has good prospects. to be cultivated and developed.

To determine the efficiency level of sugarcane farming was analyzed using the Return Cost Ratio (R/C) formula. The Return Cost Ratio compares the revenue received by sugarcane farmers and the total costs incurred, with the criteria that if R/C is >1 , then sugarcane farming is efficient or feasible to cultivate. On the contrary, if the R/C is <1 , the farming is not efficient or not feasible to cultivate. Based on table 4.11, the average value of R/C ratio of 2.85, meaning that every Rp. 1 cost spent in the farm will create Rp.2.85 of revenue. Since the R/C ratio is large enough (more than 1), it indicates that sugarcane farming has good prospects and deserves to develop because it has a ratio of more than 1. In this sense, when farmers are decided to build the partnership

Nature of Partnership between PT SMS and Sugarcane Farmers

A partnership is a business strategy by two or more parties under mutual need and benefits within a certain period. The partnership between PT. SMS and sugarcane farmers collaborate in producing sugar cane as raw material for sugar. This form of cooperation is a way to ensure the availability of sugar cane raw materials needed by the company and to increase the income of vicinity sugarcane farmers in the Pekat District of Dompu Regency.

Until now, a partnership between the farmers' community and SMS is called a nucleus-core plantation owned by SMS reaches thousands of hectares so that it is sufficient for the needs of the sugar factory. This partnership in agricultural industry with farmers is to realize the economic strength of independent farmers

with competitive and ecosystem-based productivity. Managing the potential of Natural Resources and Human Resources through Farmers becomes a real economic force, provides enormous benefits for farmers, and helps the Dompu community, especially in rural areas.

The form of partnership between SMS with sugarcane farmers in the Pekat district of Dompu Regency comprises (1) mutually beneficial cooperation, namely, the rights and obligations between the company and farmers are contained in the cooperation agreement, (2) the company prepares production facilities such as seeds, (3) the company guarantees the price and market share so that farmers do not have to worry about demand for their output.

Table 4. Form of Sugarcane Farming Partnership and SMS in the Pekat District of Dompu Regency in 2020

Partnership Agent	Duties	Rights
SMS	<ul style="list-style-type: none"> • Providing production facilities (Seeds) • Giving counselling • Guarantee the market and price • Providing capital cost 	<ul style="list-style-type: none"> • Getting Sugarcane Yield • Getting Sugar Cane According to Agreed Standards (guided by PT SMS)
Partner Farmers	<ul style="list-style-type: none"> • Providing Land • Maintaining and Caring for Sugarcane Plants 	<ul style="list-style-type: none"> • Obtaining seeds input • Getting counseling • Getting a market guarantee for sugarcane yield • Getting a Price Guarantee for sugarcane yield

The form of partnership between sugarcane farming and SMS in the Pekat District of Dompu Regency is called core-plasma partnership which SMS acts as the core and sugarcane farmers as plasma. SMS is obliged to provide or provide production facilities in the form of; seeds, capital to farmers (plasma), providing counselling about the excellent and correct sugarcane cultivation process, and guaranteeing the market through setting or agreeing on selling prices by the company. Plasma farmers must provide land, cultivate, and maintain sugarcane plants from preparation to harvest. The detailed obligations and rights have been mutually agreed upon regarding their respective duties and responsibilities during the partnership process. Table 1 presents a detailed explanation of the partnership form between SMS and sugarcane farmers in the Pekat District of the Dompu regency.

The partnership between farmers and SMS in Dompu Regency is quite helpful for farmers in cultivating sugarcane farming land well. The guidance from cultivation to post-harvest from PT SMS helps farmers to produce good-quality sugarcane. The higher the quality of sugarcane produced; the higher revenue may earn. It will finally determine the level of income from sugarcane farming. However, lately, people have started to complain about problems that often occur in the field, such as company’s lack of guidance or service to sugarcane farmers. This lack of guidance resulted in the low productivity of sugarcane farming, so it does not provide added value for sugarcane farmers in the Pekat district. In addition, the role of the community is still not optimal because payments are often late when the sugar cane harvest time arrives [15], which lead to many sugarcane farmers switch to corn, soybeans, and cashew crops. These problems always arise and place sugarcane farmers in a more difficult position to get optimal results. Other problems experienced by sugarcane farmers are damaged/dead seeds, pests, diseases, nuisance animals, lack of

counseling, and difficulty getting labor when the sugarcane harvest arrives.

In the concept of partnership, partner companies have strategic roles and responsibilities because they replace the role of exchange in the open market. If the partner company cannot guarantee the marketing of the products of the group or partner business, the sustainability of the contractual relationship will disturb. Therefore, the relationship between PT. SMS and sugarcane farming is further enhanced.

CONCLUSION AND RECOMMENDATION

The increasing demand for national sugar when the stagnant condition of the sugar industry and sugarcane plantations requires all parties, such as the Government, private sector, and sugarcane farmers, to work together to increase national sugar production to achieve self-sufficiency even for exports. With the partnership pattern developed between PT. SMS and sugarcane farmers in the Pekat district of Dompu Regency are one of the efforts to increase the area outside Java to support national sugar production while increasing the welfare of farmers around the company's location.

The core plasma partnership pattern is where farmers provide land, carry out cultivation activities, and obtain the company's output market and price guarantees. On the other hand, the company provides seeds and production facilities and technical guidance on good sugarcane practices. The study results show that this partnership pattern benefits farmers with a profit of up to Rp. 21.956.845 per hectare, with an R/C ratio of 2.85 or a profit rate of 185 percent. Judging from the BEP aspect, farmers' price, output, and revenue were above the BEP point, which means the scale of business carried out by sugarcane farmers is feasible and continues. However, this partnership found several problems: late payments, damaged/dead seeds, pests and diseases, nuisance animals, lack of counseling and difficulty finding labor when the sugarcane harvest arrived.

In the future, companies and farmers are expected to increase output and better management of sugarcane farming. It can be done by improving the quality of good seeds and inputs so that farmers can produce according to agreed standards and will continue to provide fair benefits for the two parties. If this happens, the level of loyalty of smallholder sugarcane farmers will be high, and they will continue to partner with the company in the future. It is in line with result of study in Pasuruan Regency, the category of sugarcane farmer loyalty level is Very High, with support for the role of High farmer behavior, the high role of Sugar Factory and the role of the Government is relatively high [8]. Efforts to cooperate created a social effect as well. Farmers got together and learned how to make informed decisions and plan and manage their farms, processing units, and markets. They learn how to adjust their strategies to change the local physical environment, local political environment, and changing markets [13]. It may be concluded that partnership is a solution that can help farmers provide capital loans and agriculture machinery as well as guarantee the production market [9]. The Customer Satisfaction Index is 74.20% showed that plasma farmers were satisfied with the implementation of the Inti-Plasma partnership [22]. The partnership program carried out by the company PT Windu Nabatindo Lestari with the Primary Member Cooperative Credit scheme has contributed to increasing income and improving the welfare of plasma farmers [10].

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