



Feasibility Study of Sago Processing in Southeast Sulawesi Province

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Key words: Feasibility, economy, Sago, economically, profitable, business

Abstract: This study aims to determine the feasibility of sago processing business of three forms of selling (bulk, bulk in the market, instant sago). Sago background research was a local food commodity pride for indigenous people of Southeast Sulawesi. Application of appropriate technology to get relatively clean water is highly recommended for the production process to produce hygienic sago and safe in terms of health. The research data was primary data through observation and direct interview with sago processing group and sago retailer in traditional market. This research uses the analysis: BEP (Break Even Point), ROI (Return of Investments) and B/C Ratio (Benefit Cost Ratio) to three types of sales (bulk sales, bulk selling and sago flour sales). The analysis results show: wholesale sales, reaching BEP at Rp 1,298,53 kg⁻¹ and production 1,731.37 kg⁻¹ month. ROI analysis shows that capital of Rp100.000 obtained revenue of Rp 135,980 and Analysis B/C with capital of 100 rupiah obtained profit 0,73 times retail sales, reaching BEP when price Rp 1,798,53 kg⁻¹ and production 1,079,12 kg⁻¹ month. ROI analysis shows that with a capital of Rp 100,000 received revenue of Rp 278,000. Analysis of B/C with capital 100 rupiah obtained profit 1.78 times instant sago sale reaches BEP at Rp 3,164,22 kg⁻¹ and production 632,84 kg. ROI analysis shows that with capital Rp 100,000 obtained revenue Rp 284.430. Analysis of B/C with capital 100 rupiah obtained profit 1.84 times. It was concluded that the business of sago starch/sago starch products by Lameuru sago processing group is feasible and economically profitable.

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Page No.: 7-11

Volume: 14, Issue 1, 2020

ISSN: 1993-5250

International Business Management

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INTRODUCTION

The national development under Jokowi-JK's control at the beginning of his reign directed that to achieve

national food self-sufficiency through the development of agro-business and agro-industry based farming, increase productivity and farmer's welfare. Another step is the revitalization and strengthening of farmer institutions, the

development of appropriate technology based on local wisdom through revitalization and strengthening of agricultural research institutions as well as the development of agricultural and rural infrastructure. To support and realize the declaration of the government above the role of real business sector is very strategic in poverty alleviation, employment and contribution in an effort to increase local revenue. The economic growth indicated as per capita income is believed to encourage greater economic growth and eventually national economic growth targets are achieved. The economic development of the local community of local sago food production centers in Southeast Sulawesi, according to research by Surni *et al.*^[1] by sampling the production centers of local sago food commodities at an average of 1.16% per month well below the economic growth level of Southeast Sulawesi Province 7.27% and still below the achievement of the national economic growth second quarter of 2016 of 5.18%. The data is a challenge the local government of Southeast Sulawesi province to boost the lagging economy of local communities through a policy of encouraging investors to revive the real sector business. The development of sago processing business group to develop sago local food product is very strategic considering that this commodity for some people of Southeast Sulawesi such as Kendari-Kolaka (ethnic Tolaki-Mekongga) sago is the main food since ancient times, local food commodities pride (primadona). Similarly, the utilization of sago for the manufacture of traditional food has long been known by local residents, among others, in the form of traditional food (sinonggi). Sago commodities for the people of Southeast Sulawesi are local food ingredients that are still consumed by the community up to now both in the form of main food in the form of sinonggi and snack foods such as bread, bagea, sinole, dadar and others. The process of getting sago starch in this area is done in groups. In the process of production at first stalk sago cleaned and cut into pieces along the 1-2 m, then the pieces are halved. The flour-containing pith of flour is destroyed by a device called nanni and the work of destroying the sago pith is called the old way of smoking and the dissolution of new ways. Processing of sago including: tree felling, cutting and processing, sowing or dissolving, extortion, filtration, precipitation and packaging.

Lameuru Village District West Ranomeeto South Konawe Regency is one of the villages located ±30 km South of Kendari. The distance from the district capital ±100 km, so that, the activities of the economy or to meet the basic needs of the family to the provincial capital of Kendari city. Its area of ±18,000 km² and 75 ha of them are sago commodity development area. Lameuru villager's income sources include sago processing. How to process sago they do still simple as in separating the sago starch (wet sago) from the pith (buckwheat) trampling (nilanda) and using relatively large water. So, that the water in the radius of the processing place that is:

river water flowing again and/or not flowing, water in between sago clumps sometimes dry (sandy), colorful, cloudy and bauh (doubt the level of hygiene) made as a water separator pith sago become sagostarch^[1]. Obtained in the market of colored sago starch, sharply flavored and if processed into sinonggi if consumed sometimes feels granulated. A problem that must be addressed as early as possible not realized by the community directly or indirectly impact on the health of the body. However, in terms of food fulfillment, rural communities in the province of Southeast Sulawesi is undoubtedly vulnerable to food.

There needs to be a major concern for the poor through real operational programs that can stimulate productive economic activities at the village level. One of the products of the people business that has the potential to be developed is sago starch/or sago starch produced by Lameuru sago processing group. It has received facilities for sago development from researchers since 2007 and 2009 through research activities and community service^[1].

Appropriate technology/new equipment or a new way of producing sago starch is to modify processing methods such as: framework (para-para), senso, water machine, scar, tarpaulin, axle and crowbar. Appropriate technology in sago starch processing requires analysis and planned. This is done in order to avoid the risk of business failure that is fatal to the continuity of business activities. Facing such a situation, prior to the adoption of new technology, preliminary calculations of the costs to be incurred are based on the benefits to be obtained in the future. During the sago starch processing business runs. To study the feasibility level of sago starch processing business, this research is expected to produce a new breakthrough to develop instant sago product to support the national priority program on food security. Enabling the local people's economy at both upstream and downstream levels of food fulfillment and supporting consumption diversification programs.

Literature review: Instant sago inspired to be realized because the wet sago starch that has been circulating in the market in the form of bulk and open smell of relatively sharp aroma can not be hidden to make potential consumers reluctant to buy it. Potential to dominate local market, regional market and also very big national considering this commodity is very liked by people who hooked food typical sinonggi region in every food menu. In addition, instant sago more hygienic in accordance with consumer expectations, consumers are not embarrassed to take it in traveling because the smell is closed not out as well as practical.

One of the real sectors that have the potential to be developed is the Sago Lameuru Business Group in West Ranomeeto Sub-district, South Konawe Regency of Southeast Sulawesi Province is classified as home industry producing dried sago/sago flour or instant sago.

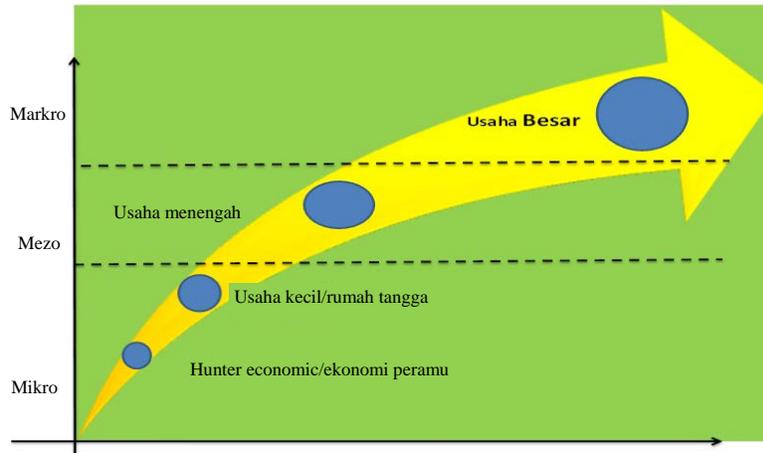


Fig. 1: Graph of Economic Growth on Micro Scale, Mezo Scale and Macro Scale Stephen Kakisina in Kamaluddin (1999)

Table 1: Cost of sago starch production process

Name of goods	The number of items (pieces)	Value of goods (Rp)	Duration of use (year)	Cost of depreciation (Rp)
2	3	4	5	6
2	3	4	5	6
Senso	1	1.700.000	2	70.833,33
Water machine	1	2.100.000	3	58.333,33
Scars	1	1.500.000	5	25.000,00
Frame	1	500.000	5	8.333,33
Tarpaulins	1	400.000	3	11.111,11
Ax	1	75.000	4	1.562,50
Crowbar	1	25.000	5	416,67
Total depreciation cost				175.590,27

^aCost of depreciation

This business group has received guidance and facilities through research activities and dedication to the community from the Directorate General of Higher Education in 2007-2009 for the development of sago. Then reviewed through independent research in 2016, recommends that economically profitable and viable Sago Processing Group Lameuru to develop sago flour as a local food product prima donna for the people of Southeast Sulawesi Province, especially those living in the land of Southeast Sulawesi.

In the context of the people's economy Sago Processing Group will grow naturally because of a number of economic potentials around it. At first they grow without any artificial incentives or in other words rely solely on the business instincts and abundance of natural resources, human resources and market opportunities. Through the process of guidance facilitation business activities are started at the upstream level and end up at the downstream level. It is expected that the economic condition of the Lameuru Sago processing process group will develop from the micro stage, to the mezo stage and to the macro stage according to the graph presented by Stephen Kakisina in Kamaluddin as in Fig. 1.

The results are expected as a database for the government in an effort to encourage and protect the owners of capital/investors to develop the real business sector (especially the Processing Group Sago Lameuru) in an effort to increase revenue and regional economic growth. Reinforced by the opinion of Nuhung that the high added value of agricultural products is in downstream activities (processed products). During this downstream industry is relatively more prosperous than the perpetrators on farm (producer farmers). Most of the production business is cultivated in the form of small-scale enterprises by rural people so in addition to large and medium scale industries, the development of small industries or households is very strategic role. Therefore, the government should encourage the development of small-scale industries that can also synergize with other businesses to create efficiency, good quality and good market access Table 1.

Sago is a local prima donna food commodity for the people of Southeast Sulawesi Province. Historically, it is the main staple food for people living in the mainland of Southeast Sulawesi (Ethnic Tolaki Mekongga) but over time the commodity shifts into the second staple food after rice. The results Surni of etc., that the food menu of

local people is not perfect every day, if not equipped with sinonggi (ready meal from sago flour). Sago commodity sold in local markets in the form of bulk, the price develops following the level of rising prices of other commodities such as the price of sago in 1999 the average price of Rp470, 32 kg⁻¹. The price of bulk sago in 2006-2007 amounted to Rp2.000 kg⁻¹ observation in the market in July 2014 of Rp3.500 kg⁻¹ and the price of sago starch in early March 2016 was Rp5,000 kg⁻¹. If converted to sago flour (60%) the price becomes Rp9.000 kg⁻¹. The processing of sago flour extraction in Lameuru Village is still manual in accordance with the results of^[2] research that almost all sago plants in Southeast Sulawesi are not the result of cultivation but naturally grow into sago forest, the way of processing manually.

With the passage of time and technological developments, orientation towards the investment capital investment business for sago processing groups gradually engineered the way of processing sago. In general, investment is an investment (either fixed or non-fixed capital) used in the production process to obtain a profit on a business. According to Afandi^[3] each argued that investment is essentially a placement of funds at the moment in the hope of obtaining future profits. The 2 business feasibility studies are a study of business plans that not only analyze feasible or unfeasible business builds but also when routinely operationalized in order to achieve maximum profit for an unspecified time.

MATERIALS AND METHODS

This study is a case study of the Lameuru Sago Processing Group, West Ranomeeto District, South Konawe District, Southeast Sulawesi Province (2016). Processing Group Sago Lameuru consists of 20 people led by a chairman and also a source of data information (respondents). Other supporting data such as sago starch prices are obtained from retailers in consumer centers in Kendari City.

To analyze the feasibility of sago processing business using BEP (Break Even Point) analysis, ROI (Return of Investment) and B/C Ratio (Benefit Cost Ratio) to three types of sales (bulk selling, bulk selling and sago flour).

Operational definition: The wholesale sales referred to in this research is the way of selling sago starch by the processor/respondent by way of the buyer at the place of production process. The bulk sale is the way of selling sago starch in traditional markets in Kendari city which is sold per kilogram. The sale of sago flour is sago starch (semi-alkaline) through the process of drying manually in hot eye of day for 2 day, sago starch conversion half wet to sago flour about 60-70%. The cost of sago starch production process consists of depreciation cost of

equipment, raw material cost and other expenses. Price is the value per kilogram of sago (sago starch and sago flour) in Rp kg⁻¹.

RESULTS AND DISCUSSION

Raw material costs: The average sago tree used per month in processing sago as much as 10 trees@Rp 50.000 = Rp 500.000,00.

Other costs: Solar 10 liters@Rp7.000 = Rp 70.000,00 Labor 3@1.000.000 = Rp3.000.000,00 Package/sack 150 sheets@Rp1.000 = Rp 150.000,00, Total = Rp3.220.000,00.

Total production cost per month:

Total depreciation cost = Rp175.590,27 Raw material costs = Rp500.000,00 Other Costs = Rp3.220.000,00 Rp3.895.590,27.

Selling pricing: Selling price is based on 3 categories, namely: Selling per sack where intermediary traders come to buy at the production site at the price of Rp 45,000/bag (1 sack berisis 20 kg) identical Rp 2.250 kg⁻¹ sago).

- Sell retail Rp5.000 kg⁻¹ sago starch
- Sell in the form of sago flour Rp9.000 kg⁻¹

Revenue and Profit per month: Sales in the form of wholesale. Gross revenue = 150 bags x Rp 45.000/bag = Rp 6.750.000 Production cost = Rp 3.895.590,27; Profit = Rp 2.854.409,73.

Sales in the form of bulk/retail: Production: 150 bags x 20 kg/sack = 3.000 kg sago starch Gross revenue: 3.000 kg×Rp 5.000 kg⁻¹ = Rp15.000.000. Additional 30 days sales charge@ Rp50.000 = Rp 1.500.000. Total cost of production: Production cost = Rp 3.895.590,27; Additional sales cost = Rp 1.500.000. Rp 5.395.590,27; Advantages: Gross revenue = Rp 15.000. Total production cost = Rp 5.395.590,27 Rp 9,604,409,73.

Sales in the form of sago flour: Sago wet is converted to sago flour by 60% (60% x 3.000 kg). Gross revenue = 1,800 kg×Rp9.000 kg⁻¹ = Rp16,200,000. Additional process cost added wet sago into sago flour and marketing cost: Rp60.000/day×30 days = Rp1,800,000. Total cost of production: Production cost = Rp 3.895.590,27. Additional sales cost = Rp 1.800.000. Rp 5.695.590,27; Advantages: Gross revenue = Rp16.200.000. Total production cost = Rp 5.695.590,27; Rp 10.504.409,73.

Feasibility: The results of the analysis show sales in bulk form, reaching BE at the price of Rp1.298,53 kg⁻¹ and production 1,731.37 kg⁻¹ month. Analysis of ROI, capital

of Rp100.000 obtained revenue Rp135.980. Analysis of B/C, capital 100 rupiah gained 0.73 times profit sales in retail form in the market, reaching BE when price Rp1.798,53 kg⁻¹ and production 1,079.12 kg⁻¹ month. ROI analysis that with the capital Rp100.000 obtained revenue of Rp278.000. Analysis of B/C with capital 100 rupiah obtained profit 1.78 times instant sago reach BE at the price of Rp3.164,22 kg⁻¹ and production 632,84 kg⁻¹ ROI analysis with capital Rp100.000 obtained acceptance Rp284.430. Analysis of B/C, capital of 100 rupiah gained 1.84 times.

CONCLUSION

The business of sago starch/sago starch products by Lameuru sago processing group in West Ranomeeto District of South Konawe Regency is feasible and economically profitable.

SUGGESTION

To get sago starch/hygienic sago starch, the application of appropriate technology to get relatively clean water is highly recommended for the production process to produce hygienic sago and safe from health aspect.

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