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Sago Product Diversification, Sales Volume and Business Feasibility of Sawa Bioindustry

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Abstract

This study aims to describe product diversification, determine the volume of sales and the business feasibility of processing sago bioindustry products from SAWA Waraka Negeri. The results showed that there are 3 types of diversification carried out by the bioindustry, namely product diversification which produces 3 types of processed sago products, namely sago flour, sago noodles and sago rice, price diversification which results in 2 types of prices, namely Rp. . 20,000 for the size of kg or 250 grams specifically for sago noodles and Rp. 40,000 for 1kg or 500 grams for sago noodles, and packaging diversification based on size, namely kg and 1kg packages. The packaging used is a stand pouch which is equipped with a label or sticker for SAWA bioindustry. And based on the results of the feasibility analysis of the SAWA bioindustry for the three products,

Keywords: Product Diversification, Sales Volume and Business Feasibility.

INTRODUCTION

The dependence of the Indonesian people on rice is so high that when the domestic demand for rice is not fulfilled, Indonesia has to import rice. Dependence on rice can be reduced through alternative food ingredients that can be cultivated as an effort to support food security in Indonesia (Tirta, et al, 2013). Food is an important and strategic commodity because food is a basic human need that must be fulfilled by every Indonesian people (Suismono and Hidayah, 2011). Rice is a commodity that occupies the first level for the average consumption of Indonesian people (Dewi and Ari, 2012).

Food diversification is an effort to provide and consume food with a diverse and varied menu. Diversity is an indicator of food security, independence and sovereignty (Haryadi 2013). Good diversity is a local dimension, which means that the staple food for

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each region and even each person can be different to ease the burden of producing certain commodities (Bantacut, 2016).

Sago plants have the potential to be developed as an alternative food for Indonesian people besides rice (Hastuty, 2015). Because sago also has an important role in the food industry (Timisela, NR, 2006). This is because sago produces dry starch as a food source of carbohydrates (Damanik et al., 2016; Soekamto et al., 2021). Which is located on the sago stem because it is the most important part of this plant because it is a warehouse for storing starch or carbohydrates whose scope of use in industry is very wide, such as the food, feed, alcohol and other industries (Maherawati, et al. 2011).

The current use of sago in Maluku Province is generally still traditional and the majority is carried out by village communities, so that the quality and quantity, especially the yield, are still relatively low. The Maluku people consume sago as a traditional food ingredient in the form of staple foods (papeda, sinoli, Tutupola, sagulempeng, and porridge) and snacks (sarut, bagea, sago tumbu, and sago gula). In South and Southeast Sulawesi, this food is known as limestone and sinonggi. Meanwhile, in Sangihe Talaud is known as rirange (Lay et al, 1998; Wahid, 1988).

Waraka Country is one of the sago-producing countries in Maluku Province, especially Central Maluku Regency. The potential of sago that can actually be developed optimally is sago starch. This is done by the SAWA bioindustry in Negeri Waraka. Business development is a set of activities carried out to create something by developing and transforming various resources into goods/services that consumers want (Afuah, 2004).

SAWA Bioindustry in Waraka Country has developed its business by diversifying food, namely creating 3 types of food made from sago flour, such as dry sago flour, sago rice and sago noodles. So that sago plants need to be preserved through stopping conversion/conversion of land/sago areas that have important values for society (Lewaherilla, 2020; Damanik et al., 2016; Kasran, 2017; Timisela, 2006). This was made to be able to increase the income and welfare of the community, especially sago farmers and facilitate the SAWA (Sagu Waraka) bioindustry business and the purpose of product diversification is to attract the attention of consumers in order to obtain large sales volume and through product diversification a company will not depend on only one type of product but companies can also rely on diversified product types, because if one type of product is experiencing a decline, it can be overcome with other types of products (Khamidi, 2013). So that product diversification can be said as an effort to find and develop new products or markets or both in order to pursue growth, increase sales, profitability and flexibility (Tjiptono, 2008).

This variety of SAWA bioindustry products is a separate unit within a brand or product line that can be differentiated based on size, price or other characteristics

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(Sutrasmawati, 2008). Product variations are very beneficial because they can maximize production capacity thereby increasing competitiveness. Also keep in mind that marketing workersnot how to find the right consumer for a product, but how to make the right product for the consumer, so traders need to trade products according to consumer tastes becauseProduct is one element of the marketing mix which is very strategic towards increasing sales volume (Kotler, 2005). Research objectives fordescribe the diversification of processed sago products, determine the volume of product sales and analyze the feasibility of processing SAWA bioindustry sago processed products

METHOD

The research was carried out in Negeri Waraka, Teluk Elpaputih District, Central Maluku Regency, Maluku Province and was carried out for 1 (one) month (June - July 2021). Waraka Country, Teluk Elpaputih District was chosen as the research location because of the place where the Sago Bioindustry is located. The method used in this research is a case study method on the SAWA Bioindustry and a survey method. The sampling technique was carried out by means of a census, at the SAWA Bioindustry. The types of data used in this research are primary data and secondary data. Analysis of the data that the authors use in this study using quantitative analysis and quantitative analysis. The data analysis technique in qualitative research is that the writer develops the information obtained with logic or thought so that it answers the problem formulation and produces a useful research and qualitative analysis technique used to analyze the feasibility of a sago processing business with three (3) types of products in the region research is feasible or not, the Net Present Value (NPV) method is used. Calculating the NPV in an investment appraisal is a practical way to find out whether a project is profitable or not. To calculate the NPV, the following formula can be used:

$$NPV = \sum_{i=1}^{n} \frac{Bt-Ct}{(1+i)^t}$$

Information:

NPV : Net Present Value
Bt : Benefitsor benefits in year t
Ct : Costor costs in year t
i : Discount factoror the interest rate used
t :year t (time)

By test criteria:

If the NPV > 0, then the business is feasible
If NPV = 0, then the business is break even (BEP)
If the NPV < 0, then the business is not feasible

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The internal rate of return is a discount rate that results in a net present value equal to zero. Thus, if the results of the IRR calculation are greater than the Social Opportunity Cost of Capital (SOCC), the project/business is said to be feasible, if it is the same as SOCC, it means the return is principal and if under SOCC, the project/business is not feasible. In brief, the formula for calculating the IRR is:

$$IRR = i1 + \frac{NPV_1}{NPV_1 - NPV_2} x(i2 - i1)$$

Information:
IRR = Internal Rate of Return
i1 = the interest rate that produces a positive NPV
i2 = the interest rate that produces a negative NPV
NPV1 = Present Value whichproduce a positive NPV
NPV2 = Present value whichproduces a negative NPV

The Net Benefit Cost Ratio is an assessment carried out to see the level of efficiency in the use of costs in the form of a comparison of the positive net present value with the negative net present value. Mathematically Net B/C can be calculated by the formula:

$$\text{Net B/C ratio} = \frac{[\sum_{t=0}^{n}(NPV+)]}{[\sum_{t=0}^{n}(NPV-)]}$$

Information:
B/C = Benefit-Cost Ratio
I = Discountsfactor
t =Total analysis time (years) of analysis
n =Project economic life
By criteria:
If Net B/C > 1, then the business is feasible.
If Net B/C = 1, then the business is break even (BEP)
If Net B/C < 1, then the business is not feasible

RESULTS AND DISCUSSION

Characteristics of Waraka Sago Processing Industry

Labor and Worker Age

In a business or business, labor is a driving factor that must be owned by every company. This is because the production process can take place and produce products to be marketed if there is labor. The SAWA bioindustry employs people to be able to carry out production activities. The workforce that is employed consists of outside the family, meaning the surrounding community, especially mothers who have been given training

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by SAWA's bioindustry. SAWA's bioindustry workforce classification based on age can be seen in the table below.

Table 1. Classification of labor by age

Age	Number of people)	Percent (%)
26-35	2	14.29
36-45	8	57.14
46-55	4	28.57
Amount	14	100

Source: Primary Data, 2021 (Processed).

Based on the table above, it can be explained that there are 8 people aged 36-45 or 57.14%, meaning that SAWA's bioindustry workforce are those who are of productive age or are still able to work and produce something.

Employees Education Level

Education is quite important to note because through education a person can have sufficient knowledge in knowing and understanding the problem. Based on the knowledge possessed, it can help in mapping problems and looking for opportunities to solve these problems. The following is a classification of workforce based on education level.

Table 2. Classification of Workforce by Education Level

Education	Number of people)	Percent (%)
SD	2	14.28
JUNIOR HIGH SCHOOL	3	21.42
SENIOR HIGH SCHOOL	9	64.28
Amount	14	100

Source: Latumahina et al, 2021.

Table 2 explains that of the 14 workers, the percentage of SMA level is higher, namely 9 people or 64.28%, meaning that the education level in the SAWA bioindustry is also a benchmark in recruiting workers. Thus the tasks given by SAWA's bioindustry are based on the level of education and expertise possessed by these workers.

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SAWA Bioindustry Sago processed product diversification

Diversification is a strategy that is often carried out by companies. For SAWA Negeri Waraka Bioindustry, diversification is very important to minimize the risk of loss. There are 3 forms of diversification carried out by the SAWA bioindustry, namely: product diversification, price diversification and packaging diversification in terms of sizes. In assessing the success of diversification carried out by the SAWA bioindustry for 5 years (2018-2022), researchers used the Likert scale as a measure of success. Scores from the Likert scale used are: 5 (Strongly agree); 4 (Agreed); 3 (Neutral); 2 (Disagree); 1 (strongly disagree).

SAWA bioindustry has diversified its products or has produced various products from 2018, namely Sago Flour Products and Sago Noodle Products and in 2019 SAWA bioindustry produced one (1) new product, namely sago rice with the same raw material, namely dry sago flour and added with cornstarch. SAWA's bioindustry or bioindustry manager strongly agrees with product diversification because product diversification can minimize the risk of the bioindustry and according to SAWA's bioindustry manager, the product diversification has been tested for quality and quality so that it is lawful to market and product diversification will continue to be carried out by the bioindustry, but the the government must continue to support the SAWA bioindustry in producing new products from sago flour as raw material. SAWA bioindustry (sago waraka) diversifies product prices based on size as shown in table 3.

Table 3. Price Diversification by Size

No	Year	Product	Size (Gram/Kg)	Price (IDR)
1	2018	Sago Noodles	250 Grams 500 Grams	15,000 30,000
		Sago flour	½ Kg 1 Kg	15,000 30,000
2	2019-2020	Sago Noodles	250 Grams 500 Grams	15,000 30,000
		Sago flour	½ Kg 1 Kg	15,000 30,000
		Sago Rice	½ Kg 1 Kg	15,000 30,000
3	2021-2022	Sago Noodles	250 Grams 500 Grams	20,000 40,000
		Sago flour	½ Kg 1 Kg	20,000 40,000
		Sago Rice	½ Kg 1 Kg	20,000 40,000

Source: Primary Data, 2022 (Processed)

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Based on the table above, it can be explained that in 2018-2020 product prices based on size were stable and did not change. 250grams or ½ Kg costs IDR 15,000 and 500grams or 1 kg costs IDR 30,000. However, in 2021 the product price of each size has changed or increased from IDR 15,000 to IDR. 20,000 and IDR 30,000 becomes IDR 40,000. The increase in the prices of SAWA Negeri Waraka Bioindustry products was due to the increase in production costs so that the prices of each product also increased.

The SAWA bioindustry fully agrees on the price of each product in 2018-2022 because it is clear that the product prices set by the SAWA bioindustry are affordable for every consumer and product prices are in accordance with the quality of these products so that consumer satisfaction with these three products can be fulfilled.

Product packaging is one thing that is very important and also cannot be separated from the marketing and distribution process of a product. In SAWA's bioindustry, the packaging used is a Stand Pouch, both ½ kg and 1 kg in size, which is equipped with a sticker or label that contains information about SAWA's bioindustry and information on the products.

Production processProcessed Sago Bioindustry SAWA

Production is one of the main tasks of a business or enterprise. However, to achieve the final result of a production, there is a long process carried out by SAWA's bioindustry until finally their products reach the hands of consumers. This process is the production process.

Dried Sago Flour Production Process

In producing dry sago flour that is ready for market, there are 5 production processes that are carried out, namely:

1. Screening or Washing
   Filtering is carried out by employees with the aim that sago fibers or dirt can be separated from sago starch and can reduce the sugar content in the sago flour.
2. Pressing
   The pressing is carried out by the employees for 24 hours or 1 day so that the water in the flour can be squeezed out so that it is easy to dry the sago flour.
3. Sieving
   Sieving is done in order to destroy lumps of wet sago flour that has been pressed. So that in the drying process sago flour can easily absorb sunlight and dry quickly.
4. Judgment
   Drying wet sago flour is a process that is of great concern because wet sago flour only uses UV light as a tool to dry the sago flour and without dry sago flour production will be hampered.

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5. Smoothing
Refining dry sago flour is used so that the texture of dry sago flour looks smooth and soft without any lumps of flour.

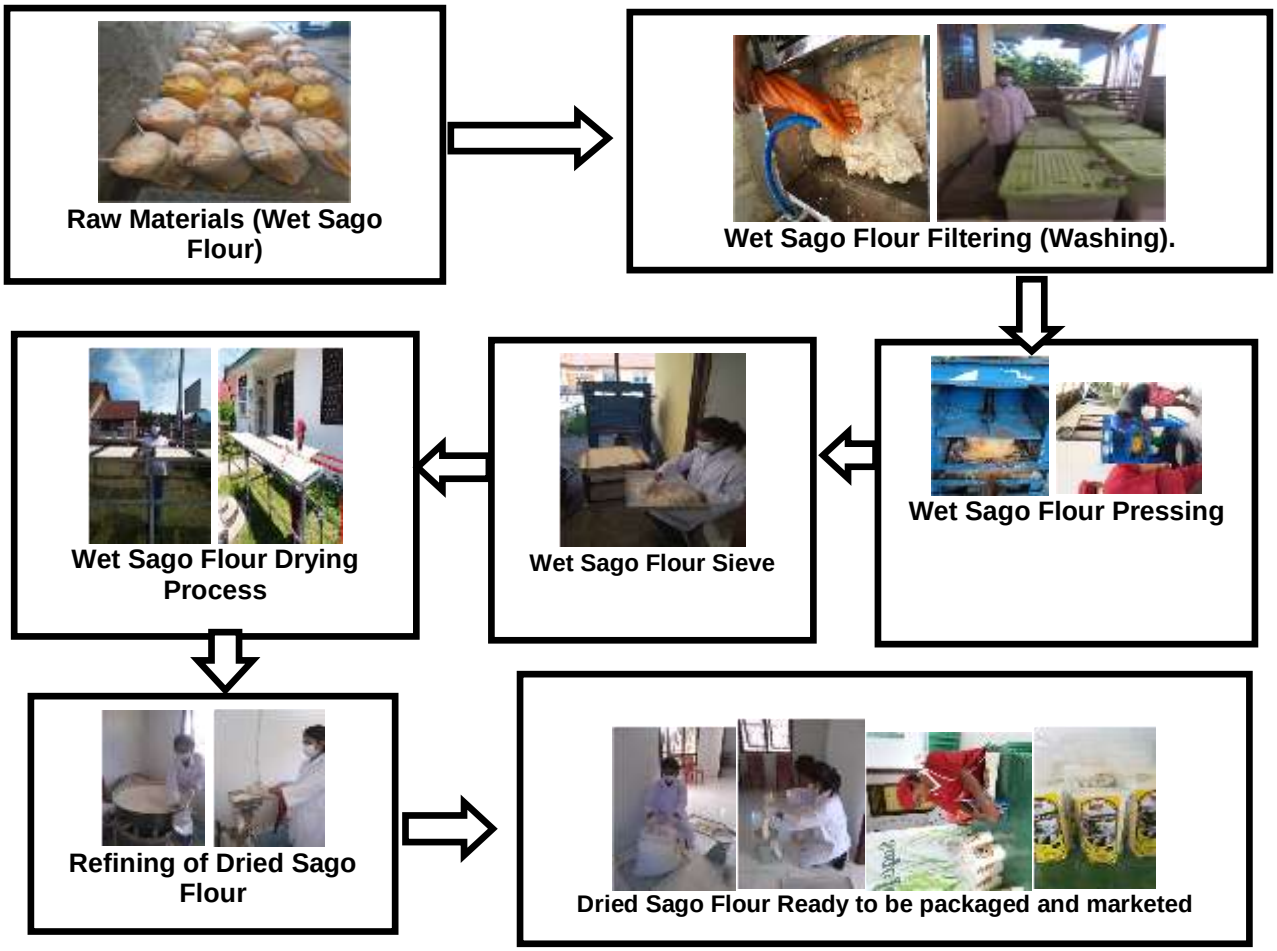


Figure 1. Production process of SAWA bio-industry dry sago flour

Dried sago flour is the main raw material in the production process of processed sago products from the SAWA Negeri Waraka Bioindustry. So that dry sago flour must have a lot of stock. According to the Manager of the SAWA bioindustry, rainy weather is an obstacle or problem in the production process and during the visit of the Maluku Province tourism office to the SAWA Negeri Waraka bioindustry, Prof. Dr. Marcus. J. Pattinama, DEA appealed to the manager of the SAWA company that in overcoming these obstacles or problems the bioindustry must make a greenhouse using UV plastic so that the wet sago flour remains standing by in the drying area.

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Sago Noodle Production Process

Noodles SAWA's sago is produced continuously due to sales to Masohi City, Ambon City and outside Maluku. SAWA noodle products are not yet in great demand by the public as a whole because most people don't know how to serve them. The owner of the SAWA factory has not introduced many SAWA noodle products to the general public. Even though this is important because sago noodles are a product that will support regional and national food security. The sago noodle production process is as shown in Figure 2.

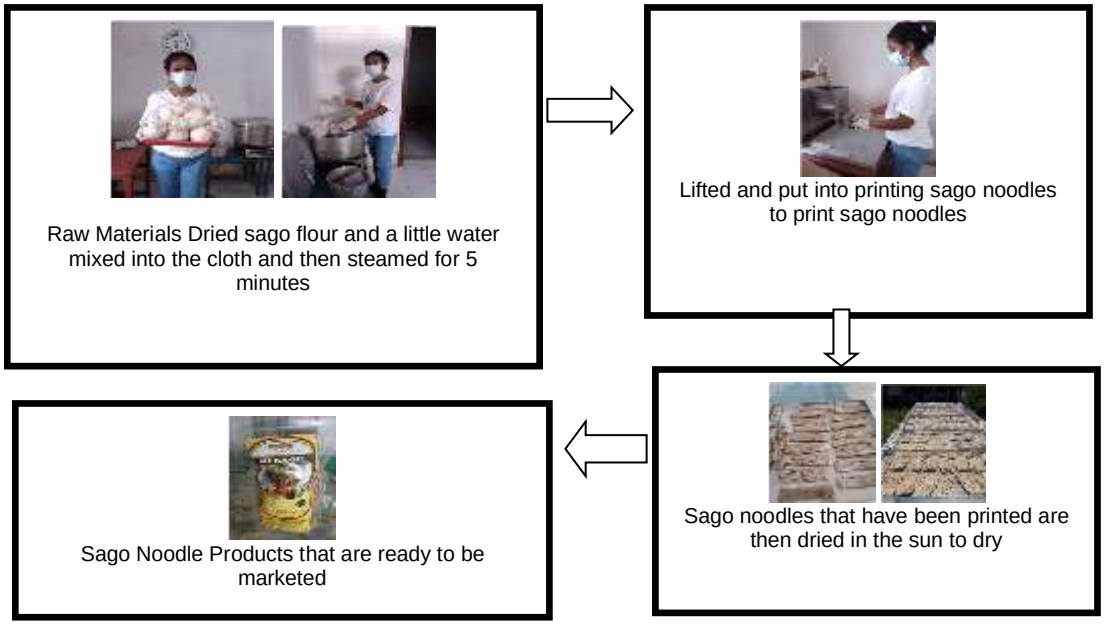


Figure 2. SAWA Bioindustry sago noodle production process

Figure 2 shows the production process of sago noodles is a continuation of the production of dry sago flour and the production process of sago noodles is very simple. What is needed in this production process is UV light to dry the printed sago noodles.

Sago Rice Production Process

Based on Figure 3 it can be concluded that the Sago Rice production process is also a continuation of the dry sago flour production process. In the production process of sago rice, corn flour is a supporting or complementary ingredient in making this product. The production process of sago rice is shown in Figure 3.

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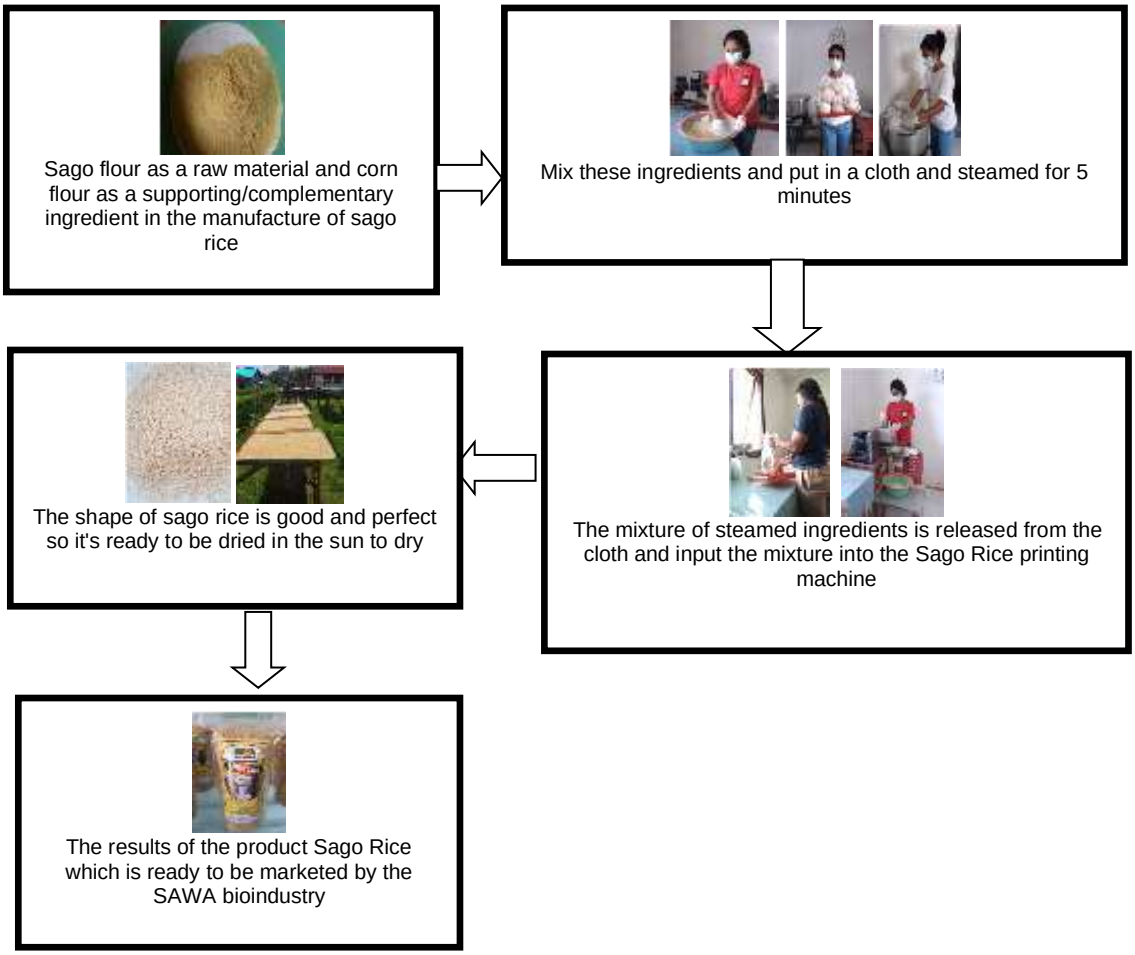
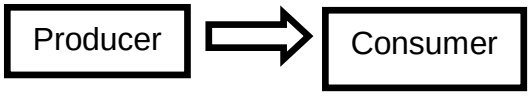


Figure 3. SAWA bioindustry sago rice production process

Marketing of SAWA Bioindustry processed sago products

Marketing is very important for processed products. Nameun, product marketing can be unsuccessful because it is caused by inadequate production costs. This problem is often faced by craftsmen, due to low production capacity and inappropriate market access to sell products so that the income received is not optimal (Ely, B. et al, 2015). The results of the study show that there are two (2) marketing channels for processed sago products from SAWA Negeri Waraka Bioindustry:

a) Marketing Channel I



In marketing channel I, producers also act as retailers who sell directly processed products from SAWA's bioindustry sago to consumers. There are 2 things in the

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marketing process that are carried out, namely: consumers buying directly at SAWA Bioindustry and producers or bioindustry marketing online through Shopee and Tokopedia. This is done with the consideration that the marketing costs are not too large so that it has an impact on the income to be received.

b) Marketing Channels II



Onmarketing channel II Producers sell processed sago products to retailers and then retailers sell to final consumers. Marketing channel II is the first level channel because it consists of two (2) business actors, namely producers and retailers. In order for the products produced by SAWA's bio-industry to be known by many people, SAWA's bio-industry has collaborated with several shops or supermarkets in Masohi, including: Toko Betah, Toko Victoria, Planet Mart and Tomia Baru. In addition to shops in Masohi City, SAWA's bioindustry also works with several shops or supermarkets and one (1) restaurant in Ambon City to sell or market SAWA Bioindustry processed sago products such as Dian Pertiwi Poka shop, Telli Wayame shop and restaurant. Dapor College.

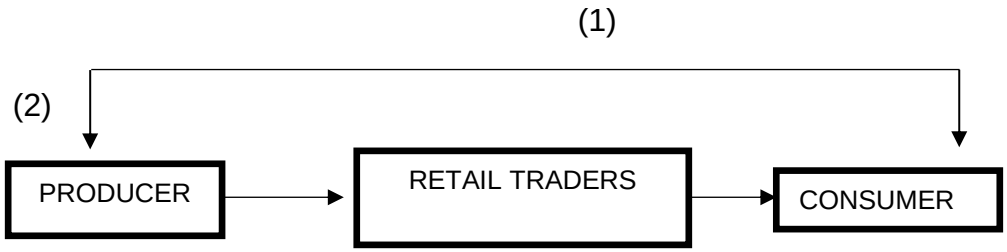


Figure 4. Marketing Channels of SAWA Negeri Waraka Sago Processed Bioindustry Products

Sales Volume of SAWA Bioindustry Processed Sago Products

Volume Sales is a measure that shows the amount or amount of goods or services sold. In research, the company makes an assessment in the form of a statement description as shown in table 7.

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Table 4. Description of bioindustry assessment statement on Sales Volume

No	Statement	SS (5)	S (4)	N (3)	TS (2)	STS (1)
1	Stock of processed sago products is still available	v				
2	Product sales continue to increase				v	
3	The income generated is very profitable for the bioindustry	v				
	TOTAL	10			2	
	TOTAL NUMBER			12		

Source: Primary data, 2022 (processed)

Table 5 explains that the sales volume of SAWA's bioindustry processed sago products does not always increase. The following is a table regarding the sales volume of SAWA Negeri Waraka processed sago bioindustry products from 2018 to 2022.

Table 5. Sales Volume of SAWA bioindustry processed sago products

Product	Sales Volume					Amount
	2018	2019	2020	2021	2022	
Sago flour	708	1634	882	636	269	4,129
Sago Noodles	684	1574	875	620	261	4,014
Sago Rice	0	1415	891	596	271	3,173
Number of units)	1,392	4,623	2,648	1,852	801	11.316
PERCENT (%)	0	70%	-75%	-43%	-131%	

Source: Primary data, 2022 (processed)

Based on the sales volume data in table 5 above, it can be concluded that the volume of sales of processed sago bioindustry products from SAWA Negeri Waraka has decreased from 2020 to 2022. This was due to Covid 19 which entered Indonesia. so that social distancing occurs, namely staying away from social activities directly with other people, and also a lockdown, namely the occurrence of regional isolation and a total stoppage of all activities in the area so that it has an impact on the volume of sales of processed sago products in the SAWA Negeri Waraka Bioindustry. However, in 2022 the

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sales volume will only arrive in the 5th month or May and SAWA bioindustry will try to increase sales volume in 2022.

Production Cost Analysis

Production costs are all costs incurred by the SAWA bioindustry to create the goods produced by the bioindustry. Both fixed costs and variable costs.

Fixed cost

Costs used for the use of production factors that are constant (fixed) are not affected by changes in production volume. Such as equipment costs and electricity fees for the SAWA bioindustry. The following is a table detailing the fixed costs of SAWA Negeri Waraka Bioindustry for 5 years (2018-2022).

Table 6. Details of Fixed Costs of SAWA Negeri Waraka Bioindustry

Product	Fixed cost					Amount
	2018	2019	2020	2021	2022	
Flour Sago	498,400	1,051,200	1,075,200	1,047,900	460,000	4,132,700
Sago Noodles	506,400	1,075,200	1,099,200	1,068,300	471,500	4,220,600
Sago Rice	0	1,075,200	1,099,200	1,067,100	470,000	3,711,500
Amount	1,004,800	3,201,600	3,273,600	3,183,300	1,401,500	12,064,800

Source: Primary Data, 2022 (processed)

Table 6 explains that the fixed costs of the SAWA Negeri waraka bioindustry are unstable each year. Total fixed costs for 5 years amounted to Rp.12,064,800. The biggest fixed cost is in 2020 of Rp. 3,273,600. This is because the number of equipment each year will increase and electricity costs are also unstable. So that the impact on the amount of fixed costs each year.

Variable Cost

Variable Costs are costs used to procure factors of production which change in nature according to changes in production volume. such as the cost of raw materials, auxiliary materials, packaging, labels, transportation and labor. The following is a breakdown of the variable costs of the SAWA Negeri Waraka Bioindustry from 2018-2022

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Table 7. Details of the variable costs of the SAWA Negeri Waraka Bioindustry

Product	Variable Cost					Amount
	2018	2019	2020	2021	2022	
Flour Sago	9,040,000	15,600,000	7,100,300	8,341,100	3,731,667	43,813,067
Sago Noodles	9,040,000	15,600,000	7,100,300	8,341,100	3,731,667	43,813,067
Sago Rice	0	17,660,000	9,260,300	9,981,100	4,371,667	41,273,067
Amount	18,080,000	48,860,000	23,460,900	26,663,300	11,835,001	128,899,201

Source: Primary data, 2021 (processed)

Based on the table above, it can be seen that the total breakdown of variable costs for 5 years (2018 – 2022) is Rp. 128,899,201. The highest variable cost is in 2019 of Rp. 48,860,000 and the product that has the highest cost in 2019 is sago rice of IDR 17,660,000. This is because the more demand, the more variable costs incurred.

Total cost

The total cost is the entire cost incurred in 1 year of production. This total cost is the sum of variable costs and fixed costs. The following is a table detailing the average total costs.

Table 8. Total Production Cost of SAWA bioindustry

Product	Total Cost of Production					Amount
	2018	2019	2020	2021	2022	
Flour Sago	9,538,400	16,651,200	8,175,500	9,389,000	4,191,667	47,945,767
Sago Noodles	9,546,400	16,675,200	8,199,500	9,409,400	4,203,167	48,033,667
Sago Rice	0	18,735,200	10,359,500	11,048,200	4,841,667	44,984,567
Amount	19,084,800	52,061,600	26,734,500	29,846,600	13,236,501	140,964,001

Source: Primary data, 2022 (processed)

Based on the table above it can be explained that the total costs incurred for the production process are very high in 2019 with details of the total production costs for each

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product, namely sago flour of IDR 16,651,200; Sago noodles Rp. 16,675,200 and sago rice Rp.18,735,200. This is because in 2019 there were many consumer requests so that the total production costs incurred were also very high.

Analysis of Processed Revenue and Revenue from Sago Bioindustry SAWA
Acceptance of SAWA Bioindustry processed sago products

To obtain revenue from processed sago bioindustry, SAWA is calculated by multiplying the production yield of each product with the selling price for 5 years (table 9). The following is the result of receiving SAWA's processed sago bioindustry products for 5 years

Table 9. Results of Acceptance of Processed Sago Products

Product	Product Acceptance					Amount
	2018	2019	2020	2021	2022	
Flour Sago	15,465,000	35,730,000	17,505,000	17,000,000	8,480,000	94,180,000
Sago Noodles	14,700,000	34,200,000	16,770,000	16,500,000	8,120,000	90,290,000
Sago Rice	0	31,965,000	17,580,000	16,080,000	8,180,000	73,805,000
Amount	30,165,000	101,895,000	51,855,000	49,580,000	24,780,000	258,275,000

Source: Primary Data, 2022 (processed)

Based on the table above, it can be seen that the total receipts of SAWA bioindustry processed sago products for 5 years amounted to Rp.258,275,000. The biggest revenue was in 2019 of Rp.101,895,000and the highest revenue from SAWA's bioindustry was found in sago flour products of Rp. 94,180,000. This is because in 2019 there were no obstacles in marketing production results like in 2020-2021, namely Covid 19 which narrowed the marketing process and reduced the level of consumers visiting the SAWA bioindustry and places importing processed sago products from SAWA's Bioindustry and according to the interests of flour consumers. Sago is one of the products that is in great demand because according to the manager of the SAWA Bioindustry, with this sago flour, the desire of many people outside the Maluku Province to enjoy one of the foods derived from sago flour, namely papeda, can be fulfilled quickly because SAWA's bioindustry sago flour is easy everywhere in small or large quantities.

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Income from Processed Sago Bioindustry SAWA

Revenue is the result obtained after the revenue is deducted by production costs. The amount of income is very dependent on the value of receipts and production costs incurred. Based on the results of the income analysis, it can be seen that the largest income was in 2019 of Rp. 49,833,400 with details of dry sago flour IDR 19,078,800; Sago noodles IDR 17,524,800 and Sago rice IDR 13,229,800. The following is the average income for the SAWA Negeri Waraka Bioindustry processed sago products produced in 2018-2022.

Table 10. Average Revenue of SAWA Bioindustry Products from 2018 to 2022

Product	SAWA Bioindustry Revenue					Amount
	Year 2018	Year 2019	Year 2020	Year 2021	Year 2022	
Flour Sago	5,926,600	19,078,800	9,329,500	7,611,000	4,288,333	46,234,233
Sago Noodles	5,153,600	17,524,800	8,570,500	7,090,600	3,916,833	42,256,333
Sago Rice	0	13,229,800	7,220,500	5,031,800	3,338,333	28,820,433
Amount	11,080,200	49,833,400	25,120,500	19,733,400	11,543,499	117,310,999

Source: Primary Data, 2022(processed)

Based on table 10, the income received by the SAWA Negeri Waraka bioindustry has not always increased for each product from 2018 - 2022. The product that has the highest income for 5 years is the sago flour product of Rp. 46,234,233 and the lowest income is the sago rice product of Rp. 28,820,433. This is because the costs of sago flour products are lower and revenue is higher than other products. Thus, the function or objective of product diversification is clearly visible in the waraka country's SAWA bioindustry, covering each other and minimizing the risks that occur in SAWA's bioindustry.

Feasibility of SAWA Negeri Waraka Bioindustry Business

The feasibility of the business of processed sago products in the SAWA Negeri Waraka bioindustry, Teluk elpaputih District, Maluku Regency is being analyzed based on the flow of benefits data obtained and data on the flow of costs incurred for 5 years. The criteria used to determine the feasibility of the business are Net Present Value (NPV), Interval Rate of Return (IRR) and Net Benefit Cost Ratio (Net B/C). The following is a

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table of the feasibility calculation results for the SAWA Negeri Waraka Bioindustry business.

Table 11. Results of the feasibility calculation of the SAWA Negeri Waraka Bioindustry business

Product	Investment Parameters	Unit	Results	Rule	Eligibility Status
Sago flour	NPV	Rp	13,647,593	NPV > 0	Worthy
	IRR	%	41	IRR > SOCC	Worthy
	B/CR		1.68	Net B/C > 1	Worthy
Sago Noodles	NPV	Rp	10,699,681	npv > 0	Worthy
	IRR	%	35	IRR > SOCC	Worthy
	B/CR		1.53	Net B/C > 1	Worthy
Sago Rice	NPV	Rp	263,053	NPV > 0	Worthy
	IRR	%	14	IRR > SOCC	Worthy
	B/CR		1.01	Net B/C > 1	Worthy

Note: SOCC is an interest rate of 13%

Table 11 shows the results of calculating the criteria for a feasible investment to be developed with an interest rate of 13%. Based on the calculation results above, the investment parameters and their eligibility status can be described as follows:

Net Present Value (NPV)

The Net Present Value calculation is carried out to determine the present value of the project's net benefits at the present time from the difference between benefits and investment costs which are presented or discounted. The discount rate used for calculating the Net Present Value in the analysis is 13% according to the range according to the prevailing interest rate used by the bank. In the calculation of the Present Value value, the sago flour product is Rp. 13,647,593, sago noodle products Rp. 10,699,681, sago rice product Rp. 263,053. Based on the Net Present Value of the three processed sago bioindustry products from SAWA Negeri Waraka, it can be seen that the NPV of the three products is greater than zero. This means the benefits received by SAWA Negeri Waraka Bioindustry for sago flour products, sago noodle products and sago rice products are greater than the cost or investment incurred. So it can be concluded that the three products are feasible to try.

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Internal Rate of Return (IRR)

The Internal Rate of Return (IRR) value is a limit for conducting a business. From the results of the feasibility calculation of the SAWA Negeri Waraka Bioindustry in table 26, it shows that the three processed sago products, namely dry sago flour, sago noodles and sago rice, have an IRR of 41%, 35% and 14%. Dried sago, sago noodles and sago rice provide benefits for business actors to develop these product businesses (worth working on), because the resulting IRR is greater than 13% SOCC.

Net Benefit.Cost Ratio

The Net Benefit and Cost Ratio (Net B/C) is the ratio of positive net benefits or Present Value to negative net benefits or Present Value. In the Net B/C calculation, the Net B/C values of the three products were obtained, namely sago flour products, sago noodle products and sago rice products of 1.68; 1.53; 1.01. Thus, the investment criteria for SAWA Bioindustry in Waraka country for the next 5 years for sago flour and sago noodles based on the difference in benefit cost ratio (Net B/C) are considered feasible from an economic analysis point of view or the capability of a positive net benefit to cover all remaining obligations (net benefit). negative) then the business is feasible to be developed.

CONCLUSION

There are 3 things that have been carried out by the SAWA bioindustry, namely: product diversification, price diversification and packaging diversification in terms of size. The product diversification carried out resulted in 3 products, namely: dry sago flour, sago noodles and sago rice and price diversification in 2018-2020 product prices based on a fixed size. 250grams or ½ Kg costs IDR 15,000 and 500grams or 1 kg costs IDR 30,000. In 2021 the product price of each size has changed or increased from IDR 15,000 to IDR. 20,000 and IDR 30,000 becomes IDR 40,000. Diversification of packaging in the form of sizes, namely ½ kg and 1 kg using plastic stand pouches equipped with SAWA Bioindustry stickers and information on these products. The sales volume of SAWA Bioindustry has decreased from 2020 - 2022. The feasibility aspect of the SAWA bioindustry processed sago product business is feasible because the NPV value of sago flour products is Rp. 13,647,593, NPV of sago noodle products Rp. 10,699,681, NPV of sago rice product Rp. 263,053. The IRR values from the results of the calculation of the three SAWA bioindustry processed sago products are 41%, 35%, 14%. Net B/C of 1.68, 1.53, 1.01.

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