Analysis of Processing Adding Values of Glutinous Rice into “Wajik Peceran”

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Abstract. This study aims to determine the stages of processing glutinous rice into diamonds, to find out how much income the business of processing glutinous rice into diamonds, to determine the amount of added value generated from processing glutinous rice into diamonds, to find out the processing of glutinous rice into viable diamonds or not worth the effort in the research area. This research was conducted in Sempajaya Village, Berastagi Subdistrict, Karo District which was conducted purposely. The sampling method is by using a purposive method where the sample is Mrs. H. Arsini Siregar who manages glutinous rice to become diamonds at home industry scale. The analytical method used is descriptive analysis method, the method of calculating income where revenue is reduced by production costs, value-added calculation methods, and feasibility analysis methods (R / C ratio and Break Event Point / BEP). Based on the results of the study it can be concluded 1) The stages of processing glutinous rice into diamonds on a household industry scale consist of the supply of raw materials to the cutting of diamonds. 2) Revenue is high where the income earned is Rp. 45,064,472.23 / month. 3) The added value generated from the processing of diamond scale at home industry is Rp. 47,172,472.23 / month and the value added ratio is 62.83%, so value added diamond processing is classified as high in the research area. 4) Business processing of diamonds in the research area is feasible with an R / C ratio of 2.5> 1, BEP production of 20,007 pieces <total production of 50,050 pieces / month, and BEP priced at IDR 599.61 / piece <selling price of IDR 1,500 / piece /month.

Keywords sticky rice, diamonds, added value, R/C ratio, BEP

1. Introduction

Agribusiness development as one of the agricultural development strategies to achieve a number of objectives, among others is to attract and encourage new industries in the agricultural sector, create a structure of a strong, efficient and flexible economy, create added value, increase foreign exchange revenues, create employment and improve income distribution. Because of that, it can be concluded that through the processing of agricultural products it will become more diverse in its uses [1].

Agroindustry is actually the leading sector (leading sector) in modernizing the agribusiness system. That said, because agroindustry has a relatively high future and backward relationship, it can be a locomotive that drives the system and the economy as a whole. Industry that continues to grow can be seen from a variety of products offered to consumers. Companies certainly have a variety of ways to market their products, so that the industry can survive and dominate the market, and also many products consumed. In the end it can generate profits for the industry itself. Agroindustry is the center of the
agricultural chain which plays a role in increasing the added value of agricultural products in the market [2].

Rice is one of the food commodities that has economic potential to increase farmers’ income. This can be a motivation for farmers to further develop and increase their production in the hope that at the time of harvest they will get high sales results to meet their needs [3]. Rice is a food that produces rice. This food is a staple food for the majority of the Indonesian population. Although rice can be replaced by other foods, rice has its own value for people who usually eat rice and cannot be easily replaced by other foods. Rice is one of the foods that contain enough nutrients and boosters for the human body, because in it contains ingredients that are easily converted into energy. Because rice is also called energy food. Rice contains various foods including carbohydrates, protein, fat, crude fiber, ash and vitamins [4]. Data on harvested area, production and productivity of rice plants according to districts / cities in 2016 up to 2017 in North Sumatra Province can be seen in table 1 below:

Chemistry as one of the science branches that really important, but students regarded it as a difficult subject. So the teacher as a facilitator must solve this problem by communicating the material to the student using strategy [1], where to provide multiple communication between teacher and students not only meet each other but they also can use animation, sound effect, and other media to explain the data also can used graphic and chart. Multimedia can help teaching become efficient, teacher must be integrated by technology to make learning process more fun [2].

To improve the quality of teaching, the teacher required to be creative. As we known the world today’s has been developed in Technology. In education ICT can be used as a learning media to deliver the topic to the student, this is one of the way of teacher to make the learning process more enjoyable and not bored and make the student motivated to learn Animation as a media used in the learning process can improve student’s motivation and achievement, both in present and future because media able to help the student easy to memorize because it shows visualization [3].

Hydrocarbons characterized as an abstract concept, for example, the reaction that occurs in alkanes, alkenes. The reaction could not be observed directly. Hydrocarbon demand the students able to draw the molecular shape, many students have difficulty in relating molecular formula with molecular shape. Actually to showing molecular shape used molymod. But w it needs more time to arrange the ball to form the molecular shape. students difficult to understand the concept [4]. They were difficult to understand the microscopic representation of molecules symbol and equation of chemical formula.

Because ICT was developed computer animation is a better concept to use in the teaching of an abstract subject. Learning process in the classroom always conducted by the conventional method so it makes student bored and difficult to understand. Media is really important in the development of education for the learning process, especially in chemistry because some of the topics molecular shape of hydrocarbon must be explained by media to make student easy to understand and learning process will more enjoyable if we used as a learning media in education [5].

This research conducted by using learning media to delivery the topic. The effectiveness implementation of media in teaching and learning process. Blended between media and learning method are more effective and efficient to improve the quality of learning by the teacher if we compare with the conventional method [6]. Implementation of information and Communication Technology (ICT) to develop education in the future not only following the global trend but also improving quality service to the community as a strategic. [7].

**Table 1.** Data on harvest area, production and productivity of rice plants by regency / city of north sumatra in 2016 to 2017
<table>
<thead>
<tr>
<th>No</th>
<th>Districts/City</th>
<th>Harvest Area</th>
<th>Production (Ton)</th>
<th>Productivity (Kw/ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Nias</td>
<td>10.331</td>
<td>13.323</td>
<td>47.795</td>
</tr>
<tr>
<td>2</td>
<td>Mandailing Natal</td>
<td>52.806</td>
<td>86.416</td>
<td>262.072</td>
</tr>
<tr>
<td>3</td>
<td>Tapamuli Selatan</td>
<td>36.643</td>
<td>49.217</td>
<td>182.607</td>
</tr>
<tr>
<td>4</td>
<td>Tapamuli Tengah</td>
<td>35.292</td>
<td>27.336</td>
<td>157.044</td>
</tr>
<tr>
<td>5</td>
<td>Tapamuli Utara</td>
<td>36.481</td>
<td>37.214</td>
<td>173.882</td>
</tr>
<tr>
<td>6</td>
<td>Toba Samosir</td>
<td>23.494</td>
<td>25.354</td>
<td>151.426</td>
</tr>
<tr>
<td>7</td>
<td>Labuhanbatu</td>
<td>31.883</td>
<td>38.720</td>
<td>160.216</td>
</tr>
<tr>
<td>8</td>
<td>Asahan</td>
<td>18.812</td>
<td>20.427</td>
<td>109.992</td>
</tr>
<tr>
<td>9</td>
<td>Simalungun</td>
<td>112.659</td>
<td>86.555</td>
<td>669.585</td>
</tr>
<tr>
<td>10</td>
<td>Dairi</td>
<td>23.659</td>
<td>27.430</td>
<td>130.166</td>
</tr>
<tr>
<td>11</td>
<td>Karo</td>
<td>26.754</td>
<td>28.700</td>
<td>156.850</td>
</tr>
<tr>
<td>12</td>
<td>Deli Serdang</td>
<td>82.344</td>
<td>89.555</td>
<td>490.723</td>
</tr>
<tr>
<td>13</td>
<td>Langkat</td>
<td>79.697</td>
<td>92.767</td>
<td>411.456</td>
</tr>
<tr>
<td>14</td>
<td>Nias Selatan</td>
<td>30.406</td>
<td>33.758</td>
<td>138.538</td>
</tr>
<tr>
<td>15</td>
<td>Humbung hasubdian</td>
<td>19.893</td>
<td>22.349</td>
<td>103.926</td>
</tr>
<tr>
<td>16</td>
<td>Pajopak Barat</td>
<td>48.777</td>
<td>60.020</td>
<td>16.261</td>
</tr>
<tr>
<td>17</td>
<td>Samosir</td>
<td>8.231</td>
<td>7.662</td>
<td>38.916</td>
</tr>
<tr>
<td>18</td>
<td>Serdang Bedagai</td>
<td>75.619</td>
<td>84.042</td>
<td>425.946</td>
</tr>
<tr>
<td>19</td>
<td>Bata Bara</td>
<td>32.055</td>
<td>46.681</td>
<td>159.357</td>
</tr>
<tr>
<td>20</td>
<td>Padang lasaus utara</td>
<td>44.065</td>
<td>51.186</td>
<td>178.304</td>
</tr>
<tr>
<td>21</td>
<td>Padang Lasaus</td>
<td>17.416</td>
<td>32.218</td>
<td>64.615</td>
</tr>
<tr>
<td>22</td>
<td>Labuhan batu selatan</td>
<td>1.329</td>
<td>887</td>
<td>5.423</td>
</tr>
<tr>
<td>23</td>
<td>Labuhan batu utara</td>
<td>44.082</td>
<td>36.547</td>
<td>199.420</td>
</tr>
<tr>
<td></td>
<td>Kota</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>Sibolga</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>27</td>
<td>Tanjung balai</td>
<td>173</td>
<td>166</td>
<td>794</td>
</tr>
<tr>
<td>28</td>
<td>Pematang siantar</td>
<td>3.895</td>
<td>3.825</td>
<td>23.584</td>
</tr>
<tr>
<td>29</td>
<td>Tubing Tinggi</td>
<td>646</td>
<td>522</td>
<td>3.576</td>
</tr>
<tr>
<td>30</td>
<td>Medan</td>
<td>2.686</td>
<td>2.728</td>
<td>11.443</td>
</tr>
<tr>
<td>31</td>
<td>Binjai</td>
<td>3.447</td>
<td>3.528</td>
<td>15.653</td>
</tr>
<tr>
<td>32</td>
<td>Padang sidempuan</td>
<td>11.638</td>
<td>9.096</td>
<td>59.056</td>
</tr>
<tr>
<td>33</td>
<td>Gunung sitoli</td>
<td>3.538</td>
<td>3.578</td>
<td>20.021</td>
</tr>
</tbody>
</table>

**Jumlah:** 888.576 | 988.068 | 4.609.791 | 5.136.186 | 52.04 | 51.98

**SOURCE:** [5]
From Table 1, it can be seen that the harvested area, production and productivity of rice plants in North Sumatra Province in 2016 until 2017 experienced a fluctuation. North Sumatra Province consists of 33 Regencies / Cities, where the highest production in 2017 is in Langkat Regency of 539,889 tons. While rice production in Karo Regency in 2017 is the 13th center of 159,278 tons.

One of the processed products of sticky rice is diamond where according to the Indonesian National Standard / SNI (2014), diamonds are semi-wet food products made from a mixture of sticky rice, sugar, and coconut milk with the addition of other food additives. According to [6], diamonds are one of the types of local food that are inherited down and down into typical food products of several regions, for example Karo is famous for wajik peceren, West Java is famous for cillilin diamonds, Tasikmalaya is famous for diamonds wrapped in colorful paper, and Blitar with a diamond diamond.

Table 1. Research Methods

<table>
<thead>
<tr>
<th>Village</th>
<th>Type of Industry</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Large/Medium</td>
<td>Tracking Process</td>
</tr>
<tr>
<td>Gurusinga</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Raya</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Rumah Berastagi</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>TI Munglap</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Gundaling II</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Gundaling I</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>TI Munglap I</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Sempajaya</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Doulu</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Lau Gumba</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Berastagi</strong></td>
<td><strong>1</strong></td>
<td><strong>4</strong></td>
</tr>
</tbody>
</table>

Source [7]

From Table 2, it can be seen that the home industry in Sempajaya Village is the largest industry with 30 home industries.

This study chose Sempajaya Village, Berastagi Subdistrict, Karo Regency, North Sumatra Province and H. Arsini Siregar, the largest diamond processor in Sempajaya Village as an object of value added processing of sticky rice into diamonds. Karo Regency is an area that is one of the tourist attractions in Indonesia which is famous for Lumbini Nature Park, Mount Sibayak, Mount Sinabung, Sipiso-piso Waterfall, Lake Lau Kawar, Lau Sidebuk-debuk and many more, so that this area is often visited by archipelago tourists even foreign tourists. This role makes Karo district a potential area for opening businesses that are favored by tourists, one of which is the traditional food industry.

The peculiar diamond is one of the types of diamonds, using raw materials of white sticky rice and then added brown sugar and pandan leaves, in the process of making cool diamond using batter coconut milk then cut and inserted into the packaging and ready to be marketed. The unique taste and packaging technique makes a cool diamond become a favorite of typical Karo foods. Price of sticky rice per kilo Rp. 14,000 and can be processed into diamonds, so 1 kg of diamond-made material can produce 25-27 pieces at a price of Rp. 1,500 per piece.

Formulation of the problem

- How do the stages of managing glutinous rice become diamond in the research area.
- How much income received from the business of processing glutinous rice becomes diamond in the research area.
- How much added value for processing glutinous rice becomes diamond in the research area.
- Is the business of processing glutinous rice into diamonds feasible in the research area.
Research purposes

- To find out the processing of sticky rice becomes diamond in the research area.
- To find out how much income the business of processing glutinous rice becomes diamond in the research area.
- To find out the amount of added value generated from the processing of sticky rice into diamonds in the research area.
- To find out the feasibility of processing glutinous rice into diamonds in the research area.

2. Methodology

The research area was conducted purposively or deliberately based on certain considerations. This research was carried out in Karo District with the consideration that Karo District was known as the "Wajik City". In determining the diamond business sample is done by using a purposive method or deliberately, based on certain considerations. Where the research sample is the home industry of H. Arsini Siregar's mother as the largest diamond processing in Karo District.

2.1. Method of collecting data

The data collected in this study consists of primary data and secondary data. Primary data obtained from direct interviews with respondents and using questionnaires made in advance, while secondary data obtained from relevant agencies such as North Sumatra Agriculture Office, Central Statistics Agency and other literature studies.

2.2. Data analysis method

For the formulation of problem 1), the descriptive method is used, regarding the initial stages of processing glutinous rice into diamonds in the research area. For the formulation of problem 2), namely to see the amount of income in the diamond processing business, it is analyzed using the income formula:

\[ TR = P \times Q \]

\[ Y = TR - TC \]
\[ TC = FC + VC \]

Information:
- TR: Total Revenue (Acceptance)
- P: Price (Selling Price)
- Q: Quantity (Number of Products Produced)
- Y: Net Income
- TC: Total Cost (Total Cost)
- FC: Fixed Cost Total (Total Fixed Cost)
- VC: Total Variable Cost (Total Variable Cost)

For the formulation of problem 3), namely to see the magnitude of added value in the processing of glutinous rice into diamonds, analyzed by calculating the added value of the Hayani method stated in the equation as follows:

The formula for calculating brutal added value is:

\[ NT = NP - (NBB + NBP) \]

while the formula for calculating nitai is added net, namely:

\[ NT = NP - (NBB + NBP + NPP) \]

Furthermore, after obtaining the added value of glutinous rice processing into diamond, it is necessary to calculate the value added ratio as follows:

\[ \text{Value Added Ratio} = \frac{\text{Value Added}}{\text{Product Value}} \times 100\% \]

Information:
- NT: Value Added (Rp)
- Note: Raw Material Value (Rp)
- NBP: Value of Supporting Materials (Rp)
- NP: Product Value (Rp)
NPP: Value of Illustration of Equipment
The test criteria are:

If the value added ratio is $> 50\%$, the added value is high.
If the value added ratio is $\leq 50\%$, the added value is low.[9].

For the formulation of problem 4), namely for the feasibility of the business of processing glutinous rice into diamonds, it was analyzed using the R / C (Return Cost Ratio) calculation. R / C (return of ratio) R / C ratio (Return Cost Ratio) otherwise known as the ratio between revenue and costs can be formulated as follows:

$$\frac{R}{C} = \frac{Revenue}{Total \ costs}$$

With criteria:

R / C: 1 business is not profitable and does not lose
R / C: $< 1$ business is not worth the effort
R / C: $> 1$ feasible business [10]

Break Even Point (BEP) is a state of break-even or a state of capital return, so that the business is not profitable or does not lose or result in sales equal to the costs incurred. There are two calculations (BEP), namely production and prices which are formulated as follows: [11]

$$BEP \ Price = \frac{Total \ Cost}{Total \ Production}$$

$$BEP \ Production = \frac{Total \ Production}{Sales \ Price}$$

3. Result and Discussion

Phases of Diamond Processing

3.1. Process for Preparing Raw Materials

The first step in processing glutinous rice into diamonds is preparing raw materials. Where at this stage the raw material prepared is glutinous rice weighed according to the needs of the producer [12].

![Fig. 1. Provision of Raw Materials.](image)

3.2. Soaking Raw Materials

After the process of supplying raw materials, the next step is to process the raw material. Where soaking raw materials carried out in buckets. The standardization of raw materials aims to make glutinous rice expand. From the results of soaking glutinous rice in the study area 1 Kg of sticky rice after soaking into 1.5 -1.6 Kg
3.3. Steaming of Raw Materials
After the process of immersing raw materials, the next step is steaming of raw materials, where the steaming of the raw material is carried out on the cage. At this stage it is usually done around 90 minutes.

3.4. Coconut Coating
During the steaming process, coconuts are usually carried out. Where the coconuts are grated using a grated machine, which results in the grated being collected using a bucket.

3.5. Pressing Coconut Milk
Coconut which has been finished in grated then pressed to get the coconut milk. The pressing step is done by mixing coconut with water in a bucket, and then mixing water and grated coconut and filtered using a coconut filter.

3.6. Supporting Material Costs
Processing of diamonds in addition to using sticky rice as raw material also requires supporting materials (other inputs) such as coconut, brown sugar, salt, gas, firewood, vanilla, pandan leaves, electricity, United Nations.
3.7. Mixing Raw Materials, Supporting Materials into Pot
After the coconut milk thickens and cooks, then the next step by mixing the raw material into the coconut milk mixture is stirred evenly until all the dough is completely joined. In order for the diamond to be fully cooked, the diamond processing is carried out for 30 minutes.

3.8. Printing to Tray / Trays
After the diamond is thoroughly cooked, the diamond is transferred into the tray / tray, and evenly distributed.

3.9. Diamond Cutting
Cold diamonds are cut using a wooden knife, and use a wooden ruler to make the pieces evenly. Where 1 tray consists of 120-130 pieces of diamond.

3.10. Production Cost
Production costs are costs incurred during the production process in the production cycle. Production costs consist of fixed costs and variable costs. Fixed costs are costs whose value remains to a certain extent while variable costs are costs whose value changes according to the volume produced.

a) Variable Cost
Variable costs are costs whose value changes according to the volume of production produced. Non-fixed costs incurred in processing diamond making are raw materials, supporting materials.

- **Raw Material Costs**
  The cost of the raw material used in diamonds is glutinous rice. The details of the average volume of raw materials and the average cost of raw materials in a month can be seen in Table 3 below.

  **Table 3. Volume of Raw Materials, prices and cost of raw materials**

<table>
<thead>
<tr>
<th>Description</th>
<th>Unit</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Material Volume</td>
<td>Kg</td>
<td>1065</td>
</tr>
<tr>
<td>Price</td>
<td>Rp</td>
<td>14.000</td>
</tr>
<tr>
<td>Raw Material Costs</td>
<td>Rp</td>
<td>14,910,000</td>
</tr>
</tbody>
</table>

From the table above, it can be seen that the volume of raw materials is 1065 kg of sticky rice at a price of Rp. 14,000 per kg. then the amount of raw material costs is Rp. 14,910,000.

- **Supporting Materials**
  Workers in processing glutinous rice into diamonds in the research area are Foreign Workers (TKLK). The labor costs incurred in making diamonds can be seen in Table 5 below:

  **Table 4. Average Labor Costs in a Month**

<table>
<thead>
<tr>
<th>Use of Labor</th>
<th>TKDK</th>
<th>TKLK</th>
</tr>
</thead>
<tbody>
<tr>
<td>LK</td>
<td>PR</td>
<td>LK</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Labor/ Day Wages</th>
<th>Processing per day 4 hours of work</th>
<th>Total Labor Cost (Rp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>70,000</td>
<td>35,000</td>
<td>2,100,000</td>
</tr>
</tbody>
</table>

Workers in processing glutinous rice into diamonds in the study area consisted of only male workers. The workforce used is only 4 working hours per day, because the next 4 hours of work are carried out by female workers. The labor wage per day is Rp. 70,000 and because processing is done only 4 hours of work, so the labor wage becomes Rp. 35,000. In 1 day, 2 people are employed. The total labor cost in a month is IDR 2,100,000.

3.11. **Fixed cost**
The fixed costs incurred in processing diamond making are equipment depreciation costs.

**Table 3.** Cost of Supporting Materials for Sticky Rice Processing Into Diamonds

<table>
<thead>
<tr>
<th>Supporting Material</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cauldron</td>
<td>12.500</td>
</tr>
<tr>
<td>Cormorant</td>
<td>12.500</td>
</tr>
<tr>
<td>Stirring Spoon</td>
<td>2.500</td>
</tr>
<tr>
<td>Coconut Shredder Machine</td>
<td>6.666.67</td>
</tr>
<tr>
<td>Bucket</td>
<td>5.000</td>
</tr>
<tr>
<td>Trays</td>
<td>3.333.33</td>
</tr>
<tr>
<td>Wood Knife</td>
<td>833.33</td>
</tr>
<tr>
<td>Wood Ruler</td>
<td>416.67</td>
</tr>
<tr>
<td>Coconut Filter</td>
<td>1.250</td>
</tr>
<tr>
<td>Gas Furnace</td>
<td>8.333.33</td>
</tr>
<tr>
<td>Parang</td>
<td>1.805.55</td>
</tr>
<tr>
<td>Wood Raskam</td>
<td>555.55</td>
</tr>
<tr>
<td>Gas Cylinder</td>
<td>1.944.44</td>
</tr>
<tr>
<td>Gas Regulator + hose gas</td>
<td>5.555.55</td>
</tr>
<tr>
<td>Kitchen Building</td>
<td>83.333.33</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>Rp. 136,527.77</td>
</tr>
</tbody>
</table>

The equipment used in processing rice flour into diamonds is cauldron, cider, stirring stirrer, Coconut grater machine, bucket, tray / tray, wooden knife, wood ruler, coconut filter, wood ruler, machete, wood raskam, gas cylinder, regulator + hose gas, and kitchen buildings. The equipment depreciation costs amounted to Rp 136,527.77.

### 3.12. Total Production Cost

**Table 3.** Cost of Supporting Materials for Sticky Rice Processing Into Diamonds

<table>
<thead>
<tr>
<th>Type</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable Cost</td>
<td></td>
</tr>
<tr>
<td>a. Raw Material</td>
<td>14,910.000</td>
</tr>
<tr>
<td>b. Support Material</td>
<td>12,856.000</td>
</tr>
<tr>
<td>c. Labour</td>
<td>2,100.000</td>
</tr>
<tr>
<td>Fix cost</td>
<td></td>
</tr>
<tr>
<td>a. Equipment Depreciation</td>
<td>136,527.77</td>
</tr>
<tr>
<td>Total Cost (VC+FC)</td>
<td>30,010,527.77</td>
</tr>
</tbody>
</table>

The total cost is obtained from fixed costs and variable costs. Fixed costs consist of depreciation of equipment and variable costs consisting of raw material costs, supporting costs and labor costs. The total production cost of processing glutinous rice became diamond in a month of Rp 30,010,527.77.

### 3.13. Reception
Table 9. Average And Total Revenue In A Month

<table>
<thead>
<tr>
<th>Type</th>
<th>Unit</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Material</td>
<td>Kg</td>
<td>1065</td>
</tr>
<tr>
<td>Tray</td>
<td>Unit</td>
<td>455</td>
</tr>
<tr>
<td>Production</td>
<td>Pc</td>
<td>50,050</td>
</tr>
<tr>
<td>Selling Price</td>
<td>Rp</td>
<td>1,500</td>
</tr>
<tr>
<td>Revenue</td>
<td>Rp</td>
<td>75,075,000</td>
</tr>
</tbody>
</table>

Based on Table 8 it can be seen that the average production is 50,050 pieces with a selling price of Rp 1,500 / piece and the average revenue is Rp 75,075,000. Mathematically, the magnitude of the average revenue can be seen from:

\[
TR = P \times Q \\
= Rp. 1,500 \times 50,050 \\
= Rp 75,075,000
\]

If the income is greater than the total cost of production, it is said that the business gets income or surplus and vice versa.


Income is the difference between the income obtained from diamond processing with production costs incurred during the production process. The average diamond processing income in ten times production can be seen in Table 9 below.

Table 9. Diamond Entrepreneur Income in a Month

<table>
<thead>
<tr>
<th>Type</th>
<th>Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>75,075,000</td>
</tr>
<tr>
<td>Total Production Cost</td>
<td>30,010,527.77</td>
</tr>
<tr>
<td>Net Income</td>
<td>45,064,472.23</td>
</tr>
</tbody>
</table>

Based on Table 9, it can be seen that the acceptance of diamond entrepreneurs is IDR 75,075,000 in a month of production, the production cost is IDR 30,010,527.77 / month, so the income of diamond entrepreneurs is IDR 45,064,472.23 in a month of production. Systematically the net income from the sale of diamonds is:

\[
\text{Income} = TR - TC \\
= Rp 75,075,000 - Rp 30,010,527.77 \\
= Rp 45,064,472.23
\]

So net income in a month of production is Rp 45,064,472.23.

3.15. Value of Add Glutinous Rice Processing to Diamond

Value added of diamond processing is the difference between the value of glutinous rice products (Rp) with raw materials (Rp), the value of supporting materials (Rp), and the depreciation value of equipment (Rp) used in processing diamonds. The details of the input value (raw material), supporting materials, depreciation of equipment, product value, added value, and value added ratio can be seen in Table 10 below:

Table 10. Input Value, Supporting Material Value, Equipment Depreciation Value, Value Added, And Value Added Diamond Processing Ratio.

<table>
<thead>
<tr>
<th>Type</th>
<th>Production</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Based on Table 10 it can be seen that the value added of diamond processing is Rp. 47,172,472.23 / month. The amount of added value is obtained from the reduction in the value of the product. With raw material costs of Rp. 14,910,000, and the cost of supporting materials Rp. 12,856,000 and equipment depreciation costs of Rp. 136,527.77. This can be written in mathematical calculations as follows:

\[
NT = NP - (NBB + NBP + NPP) = Rp 75,075,000 - (Rp 14,910,000 + Rp 12,856,000 + Rp 136,527,77) = Rp 47,172,472.23 / production
\]

In addition to calculating the added value obtained from diamond processing, it is also necessary to calculate value added ratios. Where the ratio of value added is obtained from the division between added value and output expressed in percent (%). The ratio of added value obtained is 62.83% which can be calculated systematically as follows:

\[
\text{Value Added Ratio} = \frac{47,172,472.23}{75,075,000} \times 100\% = 62.83\%
\]

The ratio of added value obtained in making this diamond is 62.83%. So it can be concluded that the added value of processing glutinous rice into diamonds in the study area is classified as high because it is above 50%.

3.16. Business Feasibility Analysis

The business of processing sticky rice into diamonds is said to be feasible or not to be developed in the research area measured by using several parameters, including:

- **R / C ratio**
  
  R / C ratio analysis can be obtained by dividing the total acceptance of diamond processing with the total production costs incurred by diamond entrepreneurs. If R / C > 1 then the business of processing glutinous rice into diamonds is feasible and if R / C < 1 then the business of processing glutinous rice into diamonds is not feasible to cultivate.

<table>
<thead>
<tr>
<th>Type</th>
<th>Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total receipt (Rp)</td>
<td>75,075,000</td>
</tr>
<tr>
<td>Total Production Cost</td>
<td>30,010,527.77</td>
</tr>
<tr>
<td>Value Added Ratio</td>
<td>2,5</td>
</tr>
</tbody>
</table>

Based on Table 11, it can be seen that the total acceptance of diamond processing business is Rp 75,075,000 / month, and the total cost of diamond production is Rp 30,010,527.77 / month. Based on these values obtained (R/C) diamond processing ratio of 2.5. Can be seen systematically as follows:

\[
\frac{75,075,000}{30,010,527.77} = 2.5
\]

The value of R / C ratio of 2.5 means that by spending a fee of 1 rupiah, it will generate revenues of 2.5 so that a net income of Rp. 1.5 is obtained. It can be concluded that diamond business is feasible.
BEP analysis of production is a comparison between the total cost of commodity prices, so that the value of development costs obtained by the entrepreneur is obtained. Where the BEP value of production can describe the average value of the minimum product that must be released can be obtained again (break-even). Details of the BEP value can be seen in Table 12 below:

**Table 12. Acceptance, Production Costs, and R/C Diamond Processing Ratios**

<table>
<thead>
<tr>
<th>Type</th>
<th>Production</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selling price</td>
<td>Rp</td>
<td>1,500</td>
</tr>
<tr>
<td>Production cost</td>
<td>Rp</td>
<td>30,010.527,77</td>
</tr>
<tr>
<td>Total Production</td>
<td>Pc</td>
<td>50,050</td>
</tr>
<tr>
<td>BEP Production</td>
<td>Pc</td>
<td>669,51</td>
</tr>
<tr>
<td>Price BEP</td>
<td>Rp</td>
<td>700,32</td>
</tr>
</tbody>
</table>

Based on Table 12, it can be seen that the BEP value of diamond production of 20,007 pieces can be mathematically calculated as follows:

$$\text{BEP Production} = \frac{\text{Total Cost}}{\text{Sales Price}} = \frac{30,010.527,77}{1,500} = 20,007$$

Then the diamond business is feasible because of production (50,050 pieces) > from the production BEP (20,007). It can be concluded that diamonds are feasible in the research area.

- Price BEP

BEP analysis of prices is a comparison between the average total cost of the average amount of production of a product, so that the principal selling price received by the entrepreneur is obtained so that the costs incurred in diamond processing activities can be at break even. The BEP price details are as follows:

$$\text{BEP Price} = \frac{\text{Total Cost}}{\text{Total Production}} = \frac{30,010.527,77}{50,050} = 599.61 \, \text{pc}$$

The diamond business in the research area can be managed because of the price (IDR 1500) > BEP price (IDR 599.61)

**4. Conclusion**

The stages of diamond processing in the research area with the production process include: supply of raw materials, soaking of raw materials, steaming of raw materials, coconut coating, coconut milk presses, cooking of supporting materials, mixing of raw materials and supporting ingredients into cauldron, kebaki printing, diamond cutting. Diamond business income is higher where income is Rp. 45,064,472.23 / month.

The added value generated from processing glutinous rice into diamonds is high with a value-added ratio of 62.83% > 50%. The added value of glutinous rice processing business into diamonds in the study area amounted to 47,172,472.23 / month.

The R/C ratio of diamond business is 2.5 > 1 so that the business is worth the effort, meaning that by spending a fee of 1 rupiah it will generate a net income of 1.5. With BEP production of 20,007 <50,050 and BEP the price of IDR 599.61 / piece <1,500 / piece.

**Acknowledgments**

We thanks for Prof. Dr. Philipus Betaubun as Rector of Musamus University and to the entire writing team.

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