

## Economic Empowerment Models Of Poor Community Based Diversification Of Vco Waste In Nata De Coco Products In Trenggalek District

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**Abstract:** *The development paradigm is centered on humans, believed to be the most promising development theory to improve public welfare and educate the lives of the nation. One of the theoretical concepts is, Community Based Development where this theory is believed, as one of the most effective development models in the current democratic era, because this development model is based on the potential and conditions of the local community. . Community development programs like this, will get optimal community support and participation because it suits the needs of the community. The purpose of this study was to find a model of economic empowerment of the poor in the Trenggalek Regency, based on the many home industry entrepreneurs processing Virgin Coconut Oil (VCO) which are widely developed in Trenggalek, so as to provide economic added value for the surrounding poor. This is very possible because VCO waste, can be recovered in a variety of product diversification that can economically add value to the economic welfare of the poor in the surrounding areas, such as coconut fiber, coconut shells, coconut water or coconut pulp can be used for various purposes that have value other high economics. This research was conducted through a survey research method, namely the identification of a diversified VCO Waste Processing business model that had not been used by residents around the VCO processors in the research object. Need assessment is done to obtain a model that needs to be developed in accordance with the needs of the local community, carried out by a limited trial to use coconut water as a raw material for Nata de Coco, as a waste product from VCO processing that has been unused.*

**Key Word:** Empowerment, Community, Poor, Nata de Coco, Trenggalek.

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### I. Introduction

#### 1.1. Background

The decentralization of development through regional autonomy, in addition to giving greater authority to local governments, on the other hand also provides broad opportunities for, accelerating the development of natural and environmental exploitation in the regions. Efforts to provide opportunities for the regions to accelerate development in the regions are also opportunities for local governments to accelerate the exploitation of nature and other resources in the region. On the other hand, extraordinary prosperity for certain groups of people who have the opportunity and ability to access these natural resources can accelerate their welfare and prosperity. However, on the other hand, it has also given impoverishment to those who do not have access to enjoy the fruits of natural exploitation, and have even caused absolute impoverishment to certain groups of people, who are totally unable to access the results of these natural resources for life and his life. On the other hand, the impoverishment process in certain circles of children of the Indonesian people, which continues throughout this time must continue to be strived to systematically, neutrally and not touch only on certain communities, both because of ethnicity, religion and race, but holistically.

After reforming governance and regional autonomy, it has provided more opportunities and authority to local governments to improve the economic welfare of their regional communities. Efforts to advance the region based on economic empowerment of the local community, will make a strong economic support for the regional government in increasing the Regional Original Revenue (PAD).

Trenggalek Regency as one of the districts in East Java, is a relatively underdeveloped area compared to other districts in East Java. In addition to having low PAD between regencies and cities in East Java Province, it is also located in a relatively less strategic area for access to trade and development. However, as an area that has a coastal area, it actually has great potential in the development and economic empowerment of the community

based on coconuts, which grows well in coastal areas. Therefore there needs to be an in-depth study to be able to accelerate the development process and efforts to advance the local people, so as not to lag behind other regions.

Trenggalek Regency as a region that has a relatively long beach in the south coast region, which includes three sub-districts, namely Watulimo District, Munjungan District and Panggul District. Trenggalek Regency actually has the potential of natural resources, especially coconut trees which are very abundant so that local people can use the coconut to be used as Virgin Coconut Oil (VCO) products. This VCO is very useful both for direct consumption and for a variety of care and health products. Therefore VCO has high economic value, for trading businesses for people in the district of Trenggalek.

Abundant VCO production in the community of Trenggalek Regency has not been followed by product processing efficiency, so that there is still a lot of waste from the VCO products that have not been utilized optimally by the surrounding community, for productive derivatives, many even throw away and are only considered as trash alone. In this study, researchers examined how VCO waste can be optimized as an economical product that can provide economic benefits for the surrounding poor. This research is expected to minimize waste that is simply wasted, and no longer cause local population anxiety from the disposed waste, even to be a blessing because of the results of diversification of the waste treatment, because it has economic added value, and becomes something of high selling value.

As we all know, waste from VCO products can be utilized through diversification of other products, for example: coconut shell waste can be made into liquid smoke which functions one of which is an organic food preservative that has a high selling value, while coconut waste can also be used as pulp coconut which can be used as a raw material for various kinds of biscuits or dry bread, for the waste of water the coconut can be used as raw material for nata decocco products which also have high economic value and have a good selling value on the market.

Trenggalek Regency is aside from being a large coconut producing area, Trenggalek also has considerable human resources, which can be used as basic capital for the development of local community-based economic activities. So that the acceleration program for people's welfare can be done by empowering the poor based on VCO waste processing business in the area.

VCO processing waste can take the form of various kinds, both from the skin of coconut in the form of coconut husk and coconut shell which can be recycled and utilized for various needs in order to increase economic welfare for VCO entrepreneurs themselves and their environmental communities who utilize the waste. In addition, from the process of making VCO, there is also waste in the form of coconut water, grated coconut that has been squeezed, which can be used for the benefit of production materials that can be consumed and can provide significant added value for the VCO processing community as well as for the people in the environment who utilize it to business interests that can improve their economy.

In this study, the main focus to be studied is how to develop models for the use of VCO waste, especially coconut water for the interests of productive business as raw material for making nata de coco. Based on the results of previous studies, also based on the analysis of the existing circumstances and potential of the community in Trenggalek Regency, the researchers determined the themes and objects of research in the Trenggalek Regency with the title: "Development of Economic Empowerment Models for the Poor Based on Diversification of Virgin Waste Processing Business Coconut Oil (VCO) in Trenggalek Regency".

## **1.2 Problem Formulation**

As for the formulation of the problem in this study can be submitted as follows:

"How does the model that takes place in the economic empowerment of the poor is based on the diversification of VCO waste processing business, especially coconut water for the manufacture of Nata de Coco in the District of Trenggalek?"

## **1.2. Research purposes**

"How does the model that takes place in the economic empowerment of the poor is based on the diversification of VCO waste processing business, especially coconut water for the manufacture of Nata de Coco in the District of Trenggalek?"

## **II. Literature Review**

### **2.1. The Importance of Community-Based Community Economic Empowerment**

Since the monetary crisis which took place in the late 90s, it began to realize that the development of a nation could no longer be relied on only a strong government. Globalization and free trade in world trade have triggered competition among nations in various parts of the world. Likewise, the interconnectedness and interdependence between one nation and another, began to be more closely related, so like it or not like it or not, it must join the flow of interaction between nations in the world with various risks.

Since the monetary crisis that hit Indonesia, with its various effects in various sectors of life, the government system has also undergone massive changes in the Indonesian government and nation. The

government system that previously took place in a central manner, all of which rested on the central government, in various aspects of its policies, including economic dependence on central government policies. After the crisis began to be realized that all elements of the nation both in the center and in the regions, it was necessary to contribute to the existence of the nation and its continuity, in various aspects of life. The role of regional government is beginning to be recognized as important to national development, especially for the community and the regional government itself. So that the autonomy that was once in the perspective of a centralized government paradigm became autonomy that was truly in a decentralized perspective that provided greater opportunity and authority to local governments to serve themselves in the region.

In the midst of this wave of decentralization, in fact it is not only an opportunity for local governments to develop their own regions, but also a challenge for local governments to develop and solve various problems faced by the government and communities in the region. For this reason, in this perspective, regional autonomy will become a more democratic model of development, in terms of the aspirations and interests of regional communities. Local governments can use various autonomous authorities to develop and empower their regional communities to be able to compete with other regions, and accumulatively can become the role of all regions and people of Indonesia in advancing the nation and state of the Republic of Indonesia in the global global competition.

The idea of the importance of community-based development in the region is that the process of implementing development in the region (both in urban and rural areas) in catching up to the poor against the rich, can take place without destroying the joints of life and local wisdom that still exists in the local community. that.

With the enactment of a decentralized and democratic government system today, it is an opportunity to revitalize a development model that is more oriented to human development itself. Human-oriented development, or better known as "people center development" (Tjokrowinoto, 1996) is the most promising development paradigm for the progress of a nation because of the progress of the country, in general it does not depend on its natural resources, but rather relies on the quality of resources the man himself.

In the concept of implementation of development that is centered on humans, generally known as empowering or community empowerment (Usman, 1998), where development that empowers the community will further ensure the sustainability of the development, for the advancement of a society and nation.

Community development will be oriented towards various clusters of certain societies, with various characteristics of community groups constituting social potential in addition to various obstacles to the progress of a community group. Various obstacles that are permanent in nature involve culture and social structures that develop and have become shared values in the community. Obstacles in efforts to promote community welfare can be categorized into three groups as follows: "Absolute poverty, structural poverty and cultural poverty" (Siahaan, 2004). In summary, these three poverty can be explained as follows:

1. Absolute poverty is poverty that occurs in a society or individual, absolutely so that someone is below the poverty line.
2. Structural poverty is poverty that occurs in a society or individual, even though they are not below the poverty line but are under other communities.
3. Cultural poverty is poverty that occurs because of the attitude of a person's behavior or society that makes a person or community in a poor condition.

In the perspective of community development, as stated by Corten (2006) in his book *The Great Turning: From Empire to Earth Community*, that community-based development is the most appropriate development to develop the community, because it is more flexible in accordance with the situation and conditions of the local community, as well as can be adapted to the culture and structure of the community that already exists in the community. This is because the poverty that takes place in a society, on the other hand is the potential that can be developed as a base for advancing or building the community, namely Community Based Development.

In the current era of regional autonomy, the Community Based Development in the development and empowerment of communities in rural areas is the most relevant development theory to spur development in the region, in order to catch up with urban development. So that the improvement of the country's economy and people's welfare can be felt by all Indonesian people in all corners of the country.

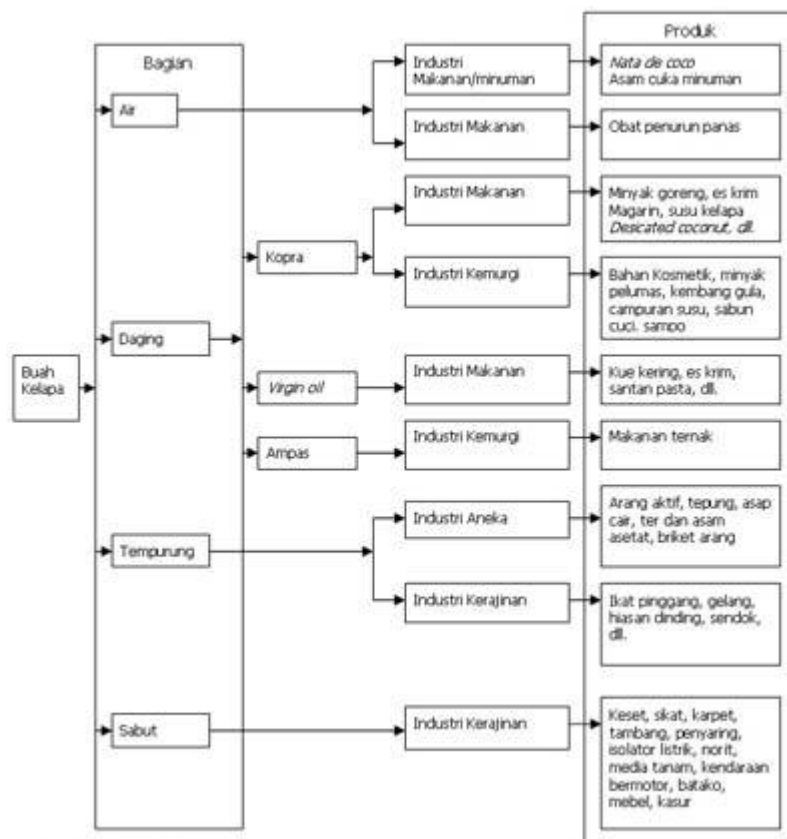
Along with the Regional Autonomy, the strategic momentum that must be filled is how to build the capacity of local communities that are in accordance with their own competence and potential. The most promising theory in the momentum is the Community Based Development. Because this development model is more respectful of socio-culturally compatible mechanisms. Socio-cultural compatibility is considered to be more flexible and its procedures in adjusting adjust to local variations. So that the design of the structure and mechanism can be avoided technocratically, without efforts to understand the social fabric of a particular region and without attempts to adjust to the social cultural context. Thus actually to implement a community-centered

community development strategy, it should emphasize the importance of implementing this community-based development.

**2.2. VCO Waste-Based Community Development Potential**

Trenggalek Regency as an area with a large coconut producer, is all the result of smallholder plantations. For this reason, in an effort to optimize the results of coconut plantations that are the property of the community, it is necessary to involve the community in how the results of the coconut plantations can have a significant economic impact for the owners, in particular and the people of Trenggalek district in general. The ability of the VCO processing community, in general, still uses traditional patterns that are less efficient, both through osmosis filter technology, with centrifuge technology, and with heating technology. Various appropriate technologies, in addition to being less efficient in general, are less maximal in their results and require high costs if they do not require a long time. Innovation and creativity in the process of refining coconut oil to become pure coconut oil, must be developed sustainably in order to achieve optimal results and in a very efficient manner. In addition to the efficient and economical VCO manufacturing process that must continue to be developed, efficiency must also be developed that is as optimal as possible so that the entire VCO manufacturing process can provide high economic value added, and can provide benefits to the community in its environment from social aspects and especially aspects economical.

As stated above that in the process of making VCO from coconut fruits, a lot of waste from making VCO can be used both from the husk and from the coconut shell. Likewise, the benefits of coconut meat and their water which is waste from making VCO, can also be utilized to provide economic added value that can provide an economic improvement effect for the surrounding community in processing the waste.



Picture: 2.1. Various Benefits of Coconut Frui

Source : Sutarminingsih, 2004

From the description above, then in the process of making VCO, a lot of waste can be used again to become goods that have high economic value and can be used by the surrounding community to improve their welfare.

**2.3. Utilization of VCO Coconut Water Waste for Nata De Coco.**

Nata de coco is a food ingredient that is shaped like jelly, white to clear and has a chewy texture. This food is produced from the process of fermentation of coconut water. Nata de coco is a complementary beverage made from coconut water using the bacterium *Acetobacter Xylinum* for its fermentation process. Although most nata are generally made from coconut water, nata de coco can be made using other ingredients such as coconut

milk, molasses or sugarcane drops, and other fruit juices such as melons, pineapple, oranges, bananas, guava, strawberries, and etc. Nata de coco comes from Spanish meaning kelapa coconut cream'. What is meant by cream is coconut milk. The naming of nata de coco is in Spanish because the Philippines was once a Spanish colony.

### 2.3.1. Nata De Coco content

But not only that, nata de coco also contains vitamins and chemical compounds that are no less beneficial to the human body. The following are:

#### 1. For Children

Most of the fans of nata de coco are among children. The taste is sweet and unique texture makes nata de coco really enjoyed by children, although not infrequently among adults who like nata de coco. However, nata de coco is not only a dish for children, but all the benefits of nata de coco are also healthy for children.

The benefits of B vitamins such as vitamin B1, B2, and the benefits of vitamin C are certainly very useful to improve the child's body immunity. A considerable amount of water in nata de coco can also meet the water needs of children where children are generally active playing and need sufficient water.

#### 2. Safe for Diabetes Patients

As long as Nata de coco is consumed in the right amount and way and not excessive, then nata de coco is classified as safe for consumption by diabetic patients. This refers to the cholesterol content that is not too much, so it does not interfere with blood circulation and does not affect the concentration of sugar in the blood.

#### 3. Do Not Disturb the Diet Process

So, is nata de coco safe for dieters? Yes, the answer is safe. If we refer to the number of calories contained in nata de coco, of course this will not affect those who are on a diet. So, for dieters, consuming nata de coco is quite safe. In addition to the benefits of de coco brick, a number of other foods can also help the diet process, namely:

#### 4. Streamlining BAB

With the benefits of fiber contained in the benefits of nata de coco, of course this food is good enough in terms of facilitating digestion in our body. If you are experiencing constipation or constipation, then nata de coco can help us to facilitate bowel movements. Even nata de coco can help make the diet process successful, because the nata de coco fiber content of nata de coco is able to bind water and absorb carbohydrates properly. So, there's nothing wrong for dieters to put nata de coco into a list of foods that are well consumed.

### 2.3.2. Development of Derivative Products from Nata de Coco

Nata de coco products, are products that can also be developed in various kinds of derivative products, various kinds of derivative products from these nata, can be stated as in the following figure:

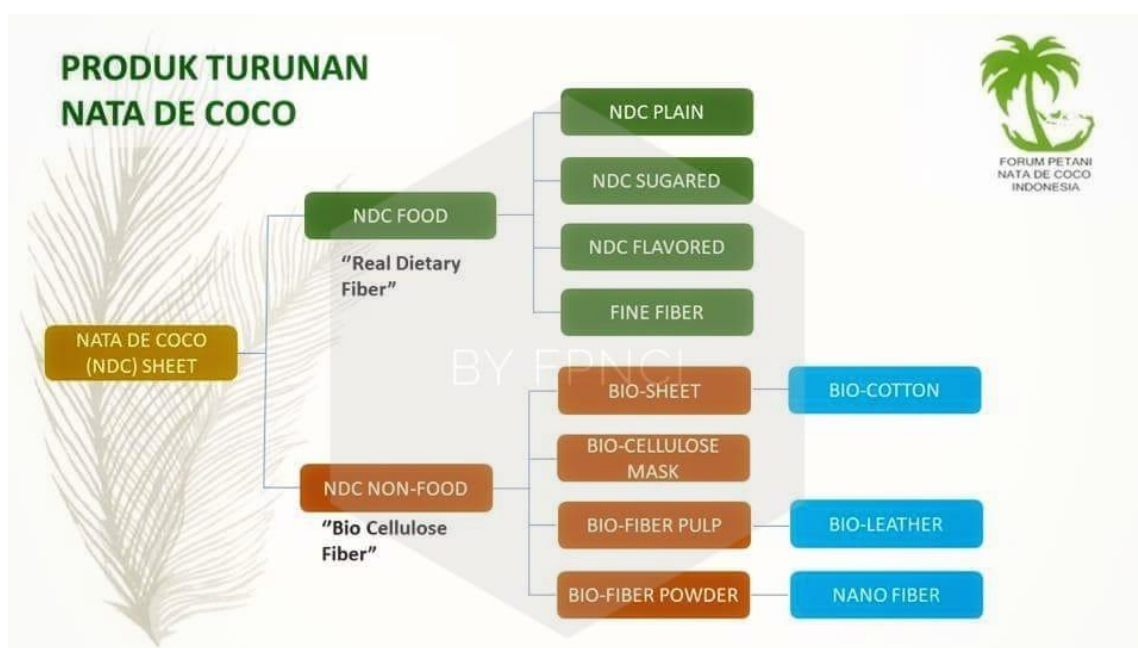


Figure 2.2. Nata de Coco derivative products  
Source: Location Survey, 2018

### III. Research Method

This research began with the identification of community economic empowerment models that took place in the area of Trenggalek Regency. The design of this study uses research models such as participant action research, diagnosis of action research and empirical action research (Kemmis & Taggart, 1988). In this need assessment stage, focus discussion group method will be used. The method is used to collect data from the local government of Trenggalek Regency and the community, because with this method they can express their opinions openly and in groups (Lestari, 2016).

The object of this research is the implementation of community economic empowerment based on VCO Waste processing in the form of coconut water for the manufacture of Nata de Coco. The technique used to collect data is with focus group discourse, observation and documentation. The focus of group discussions supported by interviews is used to identify the interests and needs of the apparatus and citizens, as well as various potentials that may be developed. Observation is used to observe the conditions and potential that can be developed through existing technology, which is developed and used as a means of improving the economy of the poor in the Trenggalek District. Documentation is used to capture data related to data stored in related Office Office documents that can be used to support the research process. The informants used to dig up the required data are carried out in Snow Ball, starting from the key person and based on the recommendations to continue with other informants. Other officials, determined by several people to be actively involved in the discussion group forum, as well as the method determined in this study.

Data analysis was carried out using a qualitative approach. Qualitative data are analyzed based on logical thinking, using interactive model analysis as developed by Miles and Huberman (1984) which consists of 3 (three) components of analysis, namely (i) data reduction, (ii) data presentation, and (iii) conclusion drawing.

### IV. Results And Extensions Achieved

#### 4.1. General Description of Research Object

Trenggalek Regency is one of the districts in East Java in the southern region, which is geographically located in a less strategic place for business and trade development. The area of Trenggalek Regency is at coordinates 111° 24' to 112° 11' east longitude and 7° 63' to 8° 34' south latitude. Overall, the area of Trenggalek Regency is approximately: 1,261.40 Km<sup>2</sup>. Trenggalek Regency is one of the Districts in East Java which is located in the south and directly bordered by the Indonesian sea, while the boundaries of the Trenggalek Regency can be seen in the following table:

**Table 4.1.** Table of Territorial Limits of Trenggalek Regency

No	Part	Limits With
1.	North	Ponorogo and Tulungagung Regencies
2.	East	Tulungagung Regency
3.	South	Indian Ocean
4.	West	Ponorogo and Pacitan Regencies

Sumber : <https://www.trenggalekkab.go.id/menu?page=25&cat=18>

Judging from the composition of the land exploration above, it seems that it will be difficult to develop this area into an area for producing food crops. In 2008 the exploitation of land for rice fields was only 9.57 percent of the total area. From what has been described above, it may be more profitable if the exploitation of land is more developed for other businesses that are not just food crops, such as plantation crops (cloves, coffee, coconut, etc.), perennials and horticulture (durian, mango, etc.) .

#### 4.2. VCO Waste Potential for Nata de Coco.

Coconut (*Cocos nucifera* L.) is one of the important plantation commodities in the development of the plantation sub-sector, among others, to meet domestic needs and as an export commodity producing foreign exchange. Coconut plantations in the People's Plantation in Trenggalek Regency cover an area of 15,812 Ha. Coconut production in the People's Plantation is 255,543 Tons with an average productivity of 1,436 Tons equivalent to copra / Ha / year although cultivation techniques are not optimal and the main pest control of kwangwung is still not successful. In addition to coconuts, plantation commodities in Trenggalek Regency which are cultivated in the People's Plantation include cocoa, coffee, cashew, cloves, tobacco, sugar cane, kapok randu, cotton and distance are the main commodities that have very good prospects to be cultivated, developed and managed into plantation business which is large so that it can meet the needs of the domestic market and export to foreign countries. For Coconut commodities, Trenggalek Regency is one of the regencies that has the greatest potential for commodity and business investment, processing the coconut plantation.

Coconut can be utilized and processed into various types of products, such as oil raw materials, virgin coconut oil (VCO), soap, cosmetics, food and beverages, medicines, building materials, furniture, home furnishings. Coconut coir is processed into ropes and mats, cocodust fibers and powder processed into sound-dampening walls, wood particles, growing media, mattresses, car seats, and spring bed linings. In addition to the contents of coconut fruit, on coconut meat after being squeezed to be taken for oil to be used as VCO, the pulp can be used as raw material for flour for various foods and snacks. Whereas the coconut water can be used as a medium for making Nata De Coco, which is a high-fiber beverage that is very good for health.

#### **4.3. The Process of Making Nata de Coco.**

Nata seed is *Acetobacter xylinum* which will be able to form nata fiber if it is placed or developed in coconut water which has been enriched with carbon and nitrogen through a controlled process.

In this condition, the bacteria will produce enzymes that can arrange sugar into thousands of fiber or cellulose chains. From the tiny millions that grow in coconut water, it can produce millions of sheets of cellulose yarns which eventually appear solid white or transparent and can be called 'nata'. *Acetobacter Xylinum* can grow at a pH of 3.5-7.5, but will grow optimally if the pH is 4.3, while the temperature is ideal for the growth of bacteria *Acetobacter Xylinum* at a temperature of 28 ° - 31 ° C. This bacterium is in desperate need of oxygen. Acetic acid or vinegar is used to reduce pH or increase the acidity of coconut water. Good acetic acid is glacial acetic acid (99.8%). Low concentrations of acetic acid can be used, but to achieve the desired level of acidity, pH 4.5 to 5.5 is needed in large quantities.

The process of making Nata De Coco:

Some of the tools needed to make Nata de Coco simply include the following: a. Pansi / Langseng from stainless b. Stainless stirrer / stirrup. c. Stove. d. Sitting scales. e. Measuring cup f. Plastic tray g. Cover newspaper h. Rubber binder i. Rack for Plastic Tray j. Muk Measure, k. Gauze / Fine Filter.

While the materials needed are as follows: a. Pure coconut water b. Sugar / white c. Za / Urea d. Prickly Vinegar e. Nata De Coco / Sari Kelapa seeds

The method for making it can be described as follows:

1. Raw coconut water is filtered, and put into a 5 liter / 20 liter pan for boiling 100 degrees Celsius, after boiling, put sugar, for cormorant / 5 liter pan of 250 gr sugar, 0.5 gr , 50 cc prickly vinegar and for cormorant 20 liters x 4 from a 5 liter cormorant / pan.
2. Boiling coconut water mixed with sugar, za, vinegar usually put into a plastic tray about 1.2 liters and it must be ensured that the plastic tray is clean and sterile from bacteria.
3. The plastic tray is closed by using a newspaper and make sure the newspaper is sterile from bacteria which will interfere with the growth of nata de coco / coconut juice, the newspaper must be dried in the sun.
4. Trays are tightly closed and arranged on a tray rack neatly and drained until cool to be given nata de coco seeds
5. Nurseries are done in the morning around 5.30-6.30, the nursery results are closed again
6. The nursery tray should not be disturbed, not rocked, if you want to see the results of nata de coco, you can see it on the 3rd day.
7. The tray from the nursery is left for one week
8. On the 7th day the nata can be opened for harvest.

Nata de Coco has many benefits besides being used as food or beverage ingredients, Nata de Coco can also be used as a bioplastic or bioseet fiber decomposition machine, etc. The advantages of Nata de Coco for the benefit of mass production are easily obtained from its raw materials. In the process of making it when fermented, the smell is not too stinging so it is relatively not damaging to the environment or environmentally friendly.

In the nursery process, the use of ZA is relatively less, so if it is used Gread non-food ZA as a Non Dietary Fiber Residue Selenium (Se) and Lead (Pb) is very far below the threshold, it can even be considered zero (0). This occurs because the N source is supplied by the extrack substrate itself.

Based on information from farmers who produce nata, yield and nata have more density and density, and stronger tensile strength, so the results are better if consumed as raw material for drinks.

#### **4.4. Empowerment of the Nata de Coco Processing Community**

Along with the implementation of regional autonomy, the regional government of Trenggalek Regency has taken various steps in empowering MSMEs, in its regional environment. However, in empowering the poor in the home environment the VCO processing industry still has not shown the expected performance.

The business prospect of Nata de Coco and the amount of waste of coconut water that has been thrown away is actually a good potential for economic empowerment of VCO waste processors for the manufacture of Nata De Coco.

From the research shows that the role of the government in the empowerment of community economy based on economic activity in the field of processing of VCO, it is very important its presence in the community, both in the form of: capital facilities, technology, infrastructure, field school education, regulation of local regulations and welfare services community, is needed in the framework of generating and optimizing this Nata de Coco business, in the environment around the VCO processing industry home community.

The pattern of community development for Nata de Coco processing can be done, among others, as follows:

- a). Increase production, productivity and quality of Nata de Coco products;
- b). Increase the fair and equitable income of the people, businessmen, traders and processors of Nata d Coco;
- c) Develop industrial estates as centers of regional economic growth, based on VCO processing and diversification of derivative products.

Whereas guidance through the development of coconut processing industrial zones, there are several benefits that can be obtained, among others are:

(1) Increased economic capability of micro and small scale community enterprises, based on coconut processing diversification efforts, especially Nata de Coco, namely: a) Reducing the burden of production costs, b) Increasing social and health insurance, c) Developing Joint Business Groups, Partnerships and Joint Cooperatives , d) Provide, develop and rehabilitate facilities and infrastructure, e) Provide technical assistance and capital, f) Encourage policies and sales of Virgin Coconut Oil along with diversification of other products both nata de coco, coconut pulp and others as well as for price stabilization.

(2) Increasing the number and quality of medium and upper-scale businesses, so that they are highly competitive, through: a) Deregulation of pro-investment plantation businesses, b) Guarantee of business security and sustainability and investment, c) Large-scale plantation business facilities are the main obstacles to business through partnerships strategic efforts, d) Development of infrastructure to support production and distribution systems, e) Development of export-import incentives and disincentives systems for coconut products and their diversification.

(3) The increasing role of the plantation sub-sector becomes the economic driver of regional and national regions, including through: a) Development of the Nata de Coco business system based on the Home VCO Industry in the industrial centers, b) Moving production in business areas and developing industrial estates as center of regional economic growth, c) Revitalization of coconut plantations and trade as a driving force for community economy, d) Economic empowerment of Joint Business Groups and Partnerships in business areas.

(4) Increasing the participation of the surrounding community in business diversification based on VCO waste processing arising from the economic activities of making VCO made from coconut which develops in the community of Trenggalek Regency and its surroundings.

## **V. Conclusions And Recommendations**

From the results of the research and analysis above, the following conclusions and suggestions can be submitted:

### **5.1. Conclusion**

1. The results of waste making VCO, especially Coconut water, can be used as raw material for Nata de Coco which is a serving of drinks that are beneficial for health because it has good nutritional and fiber values for consumption.
2. In an effort to improve the welfare of the poor around the home of the VCO-making industry, the waste can be used as raw material for Nata de Coco which can provide economic added value to the surrounding poor.
3. Making Nata de Coco, does not require high technology and can be made in the business scope of home industries that do not require large capital places with high costs. So that the poor can make it with the guidance and assistance of appropriate technology that can be used with materials from the surrounding community.
4. The poor in the process after VCO production must have cooperation with the industry for the marketing place as raw material for Nata de Coco drinks, because it needs further processes that require more professional handling.

### **5.2. Suggestion**

1. With the useful results of the waste making of VCO, especially from coconut water which can be used as raw material for Nata de Coco, then the water from the waste that has been thrown away, there should be community development and empowerment around the VCO Home Industry, for the Nata de Coco production training from waste making the VCO.
2. Considering the high economic value of Nata de Coco, it is necessary to intervene in developing cooperation between the VCO processors and the surrounding communities to utilize the existing waste to provide economic added value to the surrounding poor.



3. Although the development of Nata de Coco's business does not require sophisticated technology, training and mentoring is still needed to build awareness about the benefits of VCO waste, to become a business of making Nata de Coco, which is beneficial and able to improve the welfare of the surrounding poor.
4. The helplessness of the poor in the process of making VCO for the manufacture of Nata de Coco, still requires government and service related intervention, in an effort to build business continuity in the marketing chain of VCO production.

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