

Technology Application Membran In Empowerment Business Of Home Industri Of Virgin Coconut Oil Industry (VCO) Through The Use Of Centrifugal Separator Machinein Trenggalek Regency

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Abstract: Coconuts can be utilized and processed into various types of products, such as raw materials of oil, virgin coconut oil (VCO), soaps, cosmetics, food and beverages, medicines, building materials, furniture, home furnishings, etc. Coconut husk is processed into rope and doormat, coco fiber and coco powder (cocodust) is processed into wall silencer, particle wood, planting media, mat, car seat, spring bedding, and others. The purpose of this research is empower the community of VCO makers with the application of centrifugal technology and the application of membrane technology is to increase the quantity and quality of production of VCO maker in Sumberingin Village, Karanganyar Subdistrict, Trenggalek Regency. The community in the village environment is familiar with its expertise in making VCO traditionally, so that the level of productivity and quality besides not well standardized, also often carried on the pattern of inconsistent production quality. So often stuck on the inability to hold the trust of consumers or customers because the quality is not well maintained. The method used to produce the VCO is by using appropriate technology and semi automated machine tool making machine, through utilization of Centrifugal Separator machine (Sentrifus) so that it can produce VCO production with good and standard quality standard and can fulfill healthy food production standard From the health department. Thus it is expected to provide quality assurance in marketing both in urban and wider markets even to foreign markets to the results of the VCO production.

Keywords: Home Industry, VCO, Centrifus, Trenggalek

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I. Introduction

Coconut (*Cocos nucifera* L.) is one of the important plantation commodities in the development of plantation sub-sector, among others, to meet domestic needs as well as export commodities of foreign exchange earners. In East Java, coconut commodities are cultivated by Smallholder Plantations (PR), Large State Plantations (PTPN) and Private Plantations (PBS). East Java includes the top 10 coconut producing areas in Indonesia. Coconut area of 296,921 Ha is divided into 292,656 Ha People's Plantation, 1,907 Ha of PTPN, and 2,358 Ha PBS. The following is the data on the development of the area, production and productivity of coconut commodities in East Java in the period 2012 - 2016:

Table 1: Development of Area, Production and Productivity of Coconut Commodity in East Java in the period 2012-2016			
Year	Area (Ha)	Production (Ton)	Produktivitas(Kg/Ha)
2012	289.129	236.430	1.334
2013	292.928	248.260	1.390
2014	293.644	250.391	1.388
2015	293.750	257.891	1.396
2016*	296.921	271.768	1.494
Rates	293.274	252.948	1.400
*)Preliminary figures			

(http://www.disbun.jatimprov.go.id/komoditi_kelapa.php)

Coconut plantation on the East Java Plantation of 289,379 Ha is divided into Sumenep Regency 51,259 Ha, Banyuwangi 25,577 Ha, Pacitan 25,480 Ha, Blitar 19,693 Ha, Tulungagung 18,133 Ha, Trenggalek 15,812 Ha, Malang 14,445 Ha, Jember 12,876 Ha, Tuban 8,068 Ha, And the rest spread in 26 other districts / cities. Coconut production on the People's Plantation is 255,543 Ton with an average productivity of 1,436 tons

equivalent to copra / Ha / Year. The condition of old coconut / damaged plant (TT / TR) is 34,527 Ha, unproductive plant (TBM) of 76,999 Ha, and the produce plant (TM) is 177,959 Ha. The cultivation technique is not optimal and the main pest control kwangwung still less successful.

Based on BPS data, it shows that GRDP (Gross Regional Domestic Product), as one of the indicators of macroeconomic development, business sector classification in Gross Regional Domestic Product and sectoral contribution data in GDP of Trenggalek Regency in 2015, namely: 1. Agriculture (39.35%); 2. Mining and Quarrying (1.98%); 3. Processing Industry (5.23%); 4. Electricity, Gas and Water Supply (0.56%); 5. Construction / Buildings (2.66%); 6. Trade, Hotel and Restaurant (28.96%); 7. Transportation and Communication (3.21%); 8. Finance, Leasing and Corporate Services (3.69%); (9) Services (15.30%). The economic growth rate of 2015 is 6.46% and Year 2016 is 6.62% (Bappeda, 2016).

Trenggalek regency is one of the largest producers of plantation commodities in East Java Province, which has great potential for investors and entrepreneurs to develop business especially in plantation sub sector. Plantation commodities in Trenggalek Regency cultivated in smallholder plantations include coconut, cocoa, coffee, cashew, cloves, tobacco, sugarcane, kapok, cotton and distance are the main commodities with excellent prospects to be cultivated, developed and managed into plantation business So that it can meet the needs of domestic and export markets to foreign countries. For the coconut commodity, Trenggalek regency is one of the regencies that has the greatest potential for commodity and business investment, processing of the coconut crop.

Coconuts can be utilized and processed into various types of products, such as raw materials of oil, virgin coconut oil (VCO), soaps, cosmetics, food and beverages, medicines, building materials, furniture, home furnishings. This is because VCO as the best product of coconut fruit has many benefits, among others: "1. Lauric acid, 2. Antimicrobial, 3. Immune system, 4. Good cholesterol, 5. Super Antibiotics, etc." (Arif, 2006). In addition, the part of coconut, which becomes waste in the production process of VCO, both in the form of coconut shell and coconut fiber, can serve as a favorable economic product for the VCO producers in the countryside, for example: coconut husk processed into rope and doormat, fiber And coco fiber (cocodust) is processed into soundproofing walls, particle wood, planting media, mats, car seats, and spring bedding, and others. The technology of making VCO among the people of Trenggalek Regency has been known for a long time. VCO processing industry many do by certain families by way of Small Industry Home, independently by the people of Trenggalek Regency. However, because the making is done traditionally, aspects of quality standards, continuity of production and marketing, can not be maintained on a continuous basis by local VCO producers. This in turn affects unhealthy competition, which also impacts on unsustainable quality standards as well as trademarks and production that can not compete in a sustainable manner. The importance of industrial development to the community within the district, considering the need for coordination among producers of VCO and the need for community empowerment in the palm oil producing environment in the region. With the Hi-Link program in Trenggalek Regency, the constraints of community empowerment of VCO manufacturer's home industry are comprehensively expected to be resolved.

The commitment of partners, Yayasan Bina Sejahtera Desa to improve the welfare of the surrounding community needs to get support from various circles, especially the intellectuals from various regions to improve the welfare of the poor in their environment. This is very necessary because of the lack of human resources possessed, and the limited access to various resources available in their efforts to improve the welfare of the poor in their environment.

II. Problems

Limited quality of human resources in this institution needs to get good support of thought, access to sources of supporting funds for the benefit of community empowerment in question. Therefore, in this activity, the problem formulation can be submitted as follows: "How to empower the VCO home industry processor, in order to optimize its business profit by application of membrane technology by using centrifugal machine to produce qualified VCO?"

III. Activity Objectives

The purpose of this empowerment program is to conduct training involving 15 (fifteen) students in Trenggalek Regency. And the results to be achieved in this skill training are as follows:

- a. 15 (fifteen) students will be formed in 3 (three) business learning groups (KBU), each consisting of 5 students.
- b. 2. It is expected that all graduate training participants can run independent business in the field of making Virgin Coconut Oil (VCO). With knowledge and skills owned and capital assistance that will be given to graduates can carry out their own business in the field of making Virgin Coconut Oil (VCO).

IV. Community-Based Economic Empowerment Of Home Industry Vco

In an effort to improve the welfare of rural communities in general need to get support from various circles, especially the intellectuals from various regions to improve the welfare of the poor in their environment. This is very necessary because of the lack of quality of human resources owned, and limited access to various resources that exist in their efforts to improve the welfare of the poor in their environment.

Limited quality of human resources in rural communities needs to get good support of thought, access to sources of supporting funds for the benefit of community empowerment in question. The importance of cooperation with universities especially Hang Tuah University Surabaya, which has special expertise in the field of appropriate machine for the manufacture of VCO from coconut. It is a team combination that is argumentatively accountable to provide training to community groups in Karanganyar village, Karanganyar Subdistrict, Trenggalek District.

a. The concept of community empowerment.

The idea of the importance of community-based development in the regions is that the process of implementation of development in the regions (especially in rural areas) in catching up with the urban areas can take place without destroying the joints of life and local wisdom that still exist in rural communities. This is as stated by Budi Rianto (2015) as follows: "Socio-cultural compatibility is considered more flexible in adapting structures and procedures conform with local variations".

With the current decentralized and democratic system of government, it is an opportunity to revitalize Community Based Development in the development and empowerment of communities in rural areas. To spur development in the region, in order to catch up with urban development. So that the economic improvement of the country and the welfare of the people, can be felt by the entire society of Indonesia throughout the country.

Along with the Regional Autonomy, the strategic momentum that must be filled is how to build the capacity of local communities in accordance with their own competencies and potentials. The most promising theory in the momentum is community-based development of local community (Community Based Development). Because this development model is more respect for socio-culturally compatible mechanisms. This can be avoided by technocratic design structures and mechanisms, without attempting to understand the "social fabric" of a particular region and without attempting to adapt to the socio-cultural context. Thus, in fact, to implement a human-centered human development strategy, it should emphasize the importance of implementing this community-based development. (Corten, 1986)

With the pattern of Community Based Development, the development that takes place in the region, will be guaranteed the support of potential and competence as well as local community resources. So that Government management and development in the region can be more:

- a. Take initiatives and decision-making processes to meet the needs of local communities themselves.
- b. Can be focused on improving the ability of local communities to manage and mobilize resources in the community to meet their needs.
- c. Local government and development activities become more flexible to adapt to local conditions
- d. There can be more effective collaboration between bureaucracy and local communities.
- e. Can lead to a network (networking) between bureaucrats and the community, as well as independent independent organizational units, into an integral and comprehensive part of governance and development processes. (Adaptation of the Korten approach, 1986)

B. Potential of Community Empowerment of VCO Home Industry in Trenggalek

Based on statistical data (Trenggalek Dalam Angka, 2012), the result of population registration at the end of 2011 shows that the population of Trenggalek Regency is 813,418 people. Of the total population of 410,955 people (50.52%) were male, 402,463 (49.48%) were women with an average annual growth rate of 1%. The relatively large population is one of the potentials that can be developed in support of regional economic development based on the potential of natural resources and the profession of the local community.

The profession of the community in agriculture shows a declining trend, in which the profession in trade is increasing. The pattern of agrarian life began to be abandoned because of the economic aspects are less profitable, and less able to sustain the increasingly complex needs. In addition, with the development and knowledge of the people, who used to work in agriculture, many have turned professions, traders, development workers, and others outside agriculture.

Trenggalek Regency consists of 14 subdistricts. In the implementation of the empowerment of MSMEs, it should be in the form of community development coaches at the sub-district level, whose task is: "Providing technical and administrative guidance and consultation to community groups" (Musriha, 2009), in the preparation of development programs in each sub-district To be proposed and coordinated at the district level.

In the current era of globalization, where the dependence of the world community is increasingly inevitable then, community empowerment is not really a government requirement, but also the interests of the world community. In the era of globalization of relations between peoples of the nation with each other, increasingly need each other. Transactional interaction between countries, especially in the economic field has encouraged capital owners not only to invest their capital in their own countries, but also in other countries. Under these circumstances, the continuity of social life both of social, economic, and political stability of a nation have become a common interest, of all peoples of the nation in different parts of the world.

Transnational practices in the Era of Globalization involve not only the power of the economic aspect, but juga concerns the structural power of credit. In this context, it has evolved with the so-called "Globalization of Credit" which includes how to control production and how to place money not merely as means of circulation in meeting demand and supply.

Social stability as a guarantee of the sustainability of existing social systems, as well as ensuring the sustainability of the processes of economic growth proclaimed require an unequal social system between the rich and the poor, between the people in the region and the urban community. Therefore, the economic growth of the community in the region is very necessary to be able to balance the development of urban or urban areas, so that the wheels of governance and development can run optimally and reach the target set. In an effort to achieve that goal, there are at least 3 important things that need attention:

- a. The form of real contribution from the region expected by the central government in the basic development process.
- b. The aspirations of local communities themselves, especially those reflected in the priorities of regional development programs.
- c. Inter-regional linkages in economic and political order.

The difference, certainly not apart from the history and cultural roots of local communities, economic social conditions, geographical conditions, demographic conditions or ideals or vision set by the local government, within the framework of the established regional development.

VCO processing efforts from coconut can be done by enzyme, so oil and water can be separated, either by papaya enzin (Edahwati, Luluk, et al, 2011) or by application of membrane technology in oil separation with coconut water (Christian, et al, 2009), Or in other more effective ways to purify Coconut Oil / VCO (Welasih, et al, 2009)

V. Activity Results

The training involves 15 (fifteen) students in Trenggalek District. And the results to be achieved in this skill training are as follows:

- a. 15 (fifteen) students will be formed in 3 (three) business learning groups (KBU), each consisting of 5 students.
- b. It is expected that all graduate training participants can run independent business in the field of making VCO. With the knowledge and skills owned and capital assistance that will be given to the graduates can carry out their own business in the field of making VCO.

The results achieved from the implementation of IBM the use of centrifuge technology that has been followed by housewives who are in the business group making VCO in RT 10 and RW 04, Karangany Village, Karangany District, Trenggalek Regency are as follows:

- a. The training participants can know that the use of centrifuge machines together can strengthen the coordination between the VCO makers and those interested in making VCOs together using centrifuge machines, for the separation between water and cans of coconut milk, in a short time. So that the VCO making group in the village environment can process the VCO making faster and produce a more efficient VCO.
- b. The next process for further purification, by the community group, is to use a membrane filter that uses a large thrust, then a tissue layer with coconut milk in the filter can be produced so that it can produce a pure VCO and ready to be packaged for sale. This process has had a positive impact on VCO community groups in Pinggirsari Hamlet, Karangany Village, Karangany District, Trenggalek District.
- c. VCO is the processing of coconut oil separated to produce pure coconut oil, which is beneficial for health and can be used as raw material of cosmetics and various other bath soap. In addition VCO is also sold in retail for later use as a food drug and the prevention of various diseases.
- d. Environment Participant RT 10 RW04, can start making VCO in their own house so that they can make their own VCO and then alternately use the services of water separation and coconut canil concentrated in Pinggirsari Hamlet, placed in the head of VCO group , To be processed using centrifuge machines for faster

separation and the results can collectively be sold to the group leader, but can also be brought back home to proceed with membrane filtration and on sale alone.

- e. VCO sales made by the members of this group, in general VCO production is sold to hawker sales and souvenirs in some shops around the intersection of the road in Karangany Village, Karangany District, Trenggalek Regency. But there is also a collecting party that takes the production of VCO community groups, to be sold outside the city.
- f. The use of this centrifuge machine, in addition to being a collective means of making VCO on the other hand, has had an impact on group members to learn from each other and give each other good information on better manufacturing, as well as their VCO sales channels. So as to increase the income of the family through housewives who get training to use tools or machine maker VCO with the technology of centrifuge, with high productivity level.

VI. Conclusions

- a. IBM program in order to improve the ability of the community to adopt appropriate technology, making VCO by using a centrifuge separator machine as a water separator device with refined coconut oil.
- b. Changes in the form of coconut milk which is a mixture of water and oil into coconut oil separated from water, resulting in VCO containing lauric acid which is very beneficial to human health and various other health and care needs.
- c. Improving the quality and skills of Community Resources in rural communities that generally live from the palm plantation of smallholder plantations, with the enhancement of their capabilities and skills in VCO processing, can increase their economic income from coconut processing to VCO.

VII. Suggestions

- a. Considering the level of production of coconut plantation in Trenggalek Regency, it is very abundant then in the next phase cooperation with local community will be continued with the next program more deeply.
- b. The team will monitor the progress of training on the use of centrifuge technology for the manufacture of the VCO, and will examine its development in a more effective and efficient production process in the utilization of technology required for the manufacture of a better VCO, to the home industry appropriate for empowered community groups.
- c. If possible, approach a particular business group or company that wants to become a marketer for coconut processing business into VCO and other diversified products, to obtain maximum profit in addition to the VCO product.

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