

***STRATEGY OF DEVELOPING COCONUT FARM ENTERPRISES IN
SOUTH MINAHASA REGENCY
INDONESIA***

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ABSTRACT

The tendency of productivity decreasing of coconut tree and the lack of coconut product variation become the problem for the development of farm enterprises. These two factors are very crucial for the development of farm enterprises. Considering the importance of these factors, this study focuses on how the aspect of resources including physical, social, economic and human resources aspect influence the development of farm enterprise.

This research aims at figuring out the condition of resource aspects in their influence upon the development of farm enterprises viewed from the coconut productivity and the variation of coconut product as studied in two areas namely Tombatu and Tenga.

The study is descriptive. The respondents are ninety six coconut farmers from Tombatu and ninety nine coconut farmers from Tenga, thus the respondents are one hundred and ninety five coconut farmers. The respondents are proportionally determined. The analysis is carried out by applying cross table.

The research shows that the geographical factors such as physical environment, social economic factors and human resources in the two research sites determine the development of farm enterprises. The resource aspects concerning the geographical aspects, social economic and human resources in Tombatu area prove to be better than those in Tenga area. This circumstance affects the development of the farm enterprises in the two areas. Based upon this, the study concludes that the resource factors determine the increase of coconut productivity and the increase of coconut product variation.

The strategy to increase the productivity of coconut farm enterprises are mainly by land rehabilitation including the rejuvenation of the old coconut trees, fertilization, and bio-control, and the improvement of the ability to process coconut products, and the increase the variation of coconut product and the need to have additional capital as well as the stability/certainty of market.

Keywords: resources, farm enterprises, productivity.

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A. Introduction

North Sulawesi is known as one of the main copra producers in Indonesia. Approximately 20 % of coconut tree in Indonesia found in this province. As a commodity, coconut plays very important role both as a means of livelihood and as a source of local government income. Coconut farm enterprises absorb about 56 % of the work force and contribute significantly more than 35 % to product domestic regional gross. According to the data from the office of public plantation, it is stated that the coconut plantation occupies 317.186 ha or 21,75 % of land in North Sulawesi and producing 320.990 ton. However the productivity of the coconut by the end of the twentieth century is decreasing. In 1995-1997 the productivity rate of the coconut plantation was between 0,60-0,70 ton/ha/year or 0,66 ton/ha/year in average, it turned to 0,40-0,55 or 0,45 ton/ha/year in 1997-2000 in average or decreased into about 33,3 %. The same is true to South Minahasa, referring to the research of Turang (1998) and Maurits (1999,2001) which explained that the productivity of coconut is about 0,40 – 0,50 ton/ha/year particularly in the form of copra. The Board of Coconut Research of North Sulawesi notes that the productivity of coconut in Minahasa in 1985 – 1990 is 0,7 ton/ha/year in average. A similar phenomenon also occurs in Tombatu and Tenga (South Minahasa Regency), the coconut productivity of 1985 – 1990 is 0,7 ton/ha/year in average especially the product in the form of copra. The result of the

researches conducted in South Minahasa above particularly in 1991 – 1995 informed that the coconut productivity decreased around 21,4 % or 0,55 ton/ha/year and in the year 1995-2000 fell into 18 % or 0,45 ton/ha/year.

One of the factors that cause the low productivity of the coconut plantation is the lack of coconut farmers' knowledge of managing the coconut farm enterprise. Consequently, the farmers are not able to determine an effective pattern for their own enterprises. It, in turn, causes the inability of the farmers to attain the expected income. Therefore, it is necessary to seek for a certain breakthrough as an effective strategy not only to increase the farmer' income in particular but also the local original income in general from coconut enterprises. This idea shapes the purpose of this research that is to study several factors such as physical, social, economic and cultural that influences the development of farm enterprises.

B. Review of the Theory on developing coconut farm enterprises.

Basically there are two systems of coconut farm enterprises namely coconut monocropping system and coconut based multiplecropping system. Multiple system is carried out due to the land in the coconut plantation usually can be planted with different plants. The diversification of multiplecropping is carried out by intercropping coconut plants with other plants of the same season, year by implementing policulture. It even can be intercropped with any livestock. Beside this way, diversification of coconut product from

its root to the fruit can be developed as efforts to improve the income of coconut farm enterprises. The research of Husen, Amrizal, and Mokodongan (1988) in Minahasa reported that the income of coconut farmers applying multiplecropping system is higher than the income of those with monocropping system. The success of those coconut farm enterprises is mostly influenced by the quality of the farmer resource.

Coconut is a life crops (Suhandoyo, 1995) and in Indonesia, it is regarded as a multiuse plants due to its various advantages and generally developed in the form of people plantation. Seen from the width and productivity, coconut is the dominant plantation crop in South Minahasa. The widest area of coconut plantation in this regency is the district of Tenga and Tombatu. Yet, nowadays the coconut plantation of these areas encounters several crucial problems such as the decrease of productivity and the lack of coconut product variation (The Board of research on Cococnut North Sulawesi 2001; the Center of Asia Pacific study, 1999). The result of Maurits (1997) exposed that the development of Coconut plantation in Minahasa (including the newly declared South Minahasa) is determined by some factors such as socio economic and institutional factors. The existence of obstacles in the effort of developing the coconut farm enterprise constitutes major problem that demands a way out, and one of the solutions that can be done is through developing productive business unit as endeavor to support the increase of economic additional values of coconut plants.

Loho (1995) concludes in his research that the production of coconut in Minahasa declines and the hindrance for developing coconut farm enterprises in that

area is related to some aspects such as the availability of land, capital, and the alteration of coconut product price. Das (1990) also argued that the factors of resource both physical and socioeconomic are very influential in developing coconut plantation. Therefore, in order to add the coconut productivity value including to increase the income, one needed step to be done is the utilization coconut plantation land also for multiple cropping and at the same time trying to make the betterment for the other two factors; social and economic.

Resources normally can be divided into two that is natural resources and human resources that support the economic development of a particular area. Resource is a environmental component which is very advantageous for human life (De Souza & Poust, 1979; Hagget, 1975; Goodall, 1987). Agricultural resource studies and development studies are the parts of geography that study the role of resource in agriculture and development studies (Kitchin and Tate, 2000). According to Singh (1984) there are two determinant factors for the agricultural development activity namely physical factors consist of land, weather, water supply, and non-physical factors such as demography, technology, marketing, means of transportation, accessibility including economic institutionalization. Those factors are thought as important resources for agricultural activity comprising coconut plantation.

Discussing the resources of an area means discussing spatial and locality aspect of development. The spatial aspect is essential the planning of development areas. Till today, the fact shows that an are development planning merely concentrates on economic and social aspect whereas spatial aspect is frequently neglected. This

circumstance brings the failure of the development program. Regarding the spatial aspect means considering the resource capability in an area as a determinant factor.

Mubyarto (1991) argues that farm enterprises are mostly dependent upon the availability of the resource. This explains that the development of farm enterprises is greatly influenced by the capability and condition of resource in a certain area. Mubyarto's proposition also includes coconut farm enterprises since this farm enterprise constitutes an economic activity that is carried out by utilizing the potential of agricultural resource for the sake of development coconut. What is meant by agricultural resource here are, of course, land, labor. Capital and technology including marketing of the product for the commercial farm enterprises.

The concept of resource in geography can be understood as a material or supply consists natural resources, human resources and capital resources or culture that can be used in order to fulfill human's need. Natural resources are parts of the environment which comprise source of energy and mineral. Weather, land, nature or vegetation, animal life, landscape and other substances that is identical with land. Human resources are substances which are related to the amount and capability, physical and mental of population while capital resources or cultural resources are connected with human product such as housing substance viewed as modal. The resources are really necessary for the continuation of human life especially in meeting human need (Goodall, 1987).

In relation to the development of farm enterprises, Mubyarto (1991;296) suggests some useful factors for increasing the production of farm, enterprise are (a) the development of institutional aspect as the coordinating to aid farmers, (b) the

improvement of work opportunity, (c) the good environment component, (d) the production expansion activity. the strategy for developing agriculture is the increasing of agricultural productivity.

C. Research Methodology

This study applies spatial approach that is an approach in which the study area is viewed with areal differentiation concept implemented through Survey method. The concepts hold that the interaction within an area and inter-area will develop due to the existence of the differentiation, because basically one area is different from another. This approach is needed since this research focuses upon the phenomenon and distribution of area resources particularly those that linked with the development of coconut crops.

The process and step of analysis of this study mainly conducted as follows; (1) analyzing the condition of resource, (2) studying the development of coconut viewed from the productivity and product variation, (3) formulating endeavor and strategy to develop coconut farm enterprises on consideration of coconut development.

The term "Resource" in this study covers geographical factor, socioeconomic factor, human resources factor and farm enterprises development. The operational scope of resource as follows; a) geographical factor constitutes parts of the physical environment component as natural resources including physical, location and transportation aspects, b) socio economic factor which comprising coconut area, capital, labor, production unit, guidance and counseling, coconut variety, land cultivation, maintenance, and price fluctuation, c) human resource factor consists of the aspects of education, technical knowledge,

the utilization of economic institution and coconut management. d) the development of coconut farm enterprises seen from two forms of measurement namely the productivity of coconut farm enterprises and coconut product variation.

The respondents of the research are 195 farmers consist of 96 respondents from Tombatu area and 99 respondents from Tenga area. Data collection is carried out through observation, interview with the prepared questions apropos with the research variable.

D. The Result of the Research

1. The geographical condition of South Minahasa.

South Minahasa regency, which is located in North Sulawesi province in Indonesia , consists of 15 districts with 181 villages and 14 kelurahan (a sort of village administered directly by government appointed official). This regency is 2.120,80 km².

The topography of South Minahasa is low land expanding along the shore reaching the mountain areas with the highest peak 1702 m at Soputan volcano. Such topography causes wet climate, with average rainfall in every year and its impact is there is no limit of dry and rainy season. The total of rainy reason is 11 months with normal rainfall occurred in September-April. Yearly rainfall is 1800 mm. Total population of South Minahasa in 2003 is 297.374 people distributed into 74.557 household. The population density is 140,22 people per km². The Densest area is Tombatu district reaching 218,73 people per km². Being a farmer is the main labor for the people living in rural areas.

The plantation crops and national mainstay commodities that dominate this area are coconut, and other prominent crops such clove, cacao, vanili , sugar palm, nutmeg, coffee, cinnamon, sago, abaca, Kemiri and canary. The condition of coconut crops in South Minahasa according to its area and production can be seen in the following tables;

Table 1. The area of coconut crop in South Minahasa in 2004

no	Condition of coconut crop	area (ha)	%
1.	Crops	4.479	6.09
2.	Pre production	64.187	87,32
3.	Productive crop. Old crop/ decay	4.842	6.59
	total	83.508	100,00

Table 2. The product of coconut crop in South Minahasa in 2003

no	Product	Measurement	Total
1	Copra	Ton	89.733.70
2	Coconut shell	Item	40.664.55
4	Coconut fiber	Ton	73.119.63
5.	Stalk	Ton	62.665.82
	Tree	M3	4.800.00

2. The Description of Research Area

The site of this research is Tenga and Tombatu in South Minahasa of North Sulawesi province- Indonesia. The considerations for determining the location of the study are (1) the two districts are the biggest coconut producers in South Minahasa, and even in North Sulawesi, (2) until today these two districts still practice intensive coconut farm enterprise activities, (3) despite their biggest production, recently these two districts experience the low production in South Minahasa and even in North Sulawesi.

3. The influential geographical aspect upon the development of coconut farm enterprise.

Based upon the data found in research area, it is detected that generally the type or kind of the soil in the two districts are the type of alluvial, organosol, and laotosol soil. These types of soil are suitable for coconut crops. It is also supported by the rainfall at 3250 mm in average which is good for coconut. The elevation or height of the location informs that the sites of study is at 0 – 400 meter high which indicates a appropriate height for coconut. The position of the surface of groundwater is 1 – 2 meter

in average that is also good for coconut plantation. Thus, data explains that the physical condition of Tombatu area and Tenga is really supportive for the development of coconut farm enterprises.

Seen from the temperature, the average temperature every year in Tombatu and Tenga is 25 C - 28 C. It means that yearly temperature in the researched areas assist the development of coconut crop and the increase of coconut production.

4. The Influential socio-economic aspect determining the development of coconut farm enterprises.

One of the economic variables determining the development of farm enterprise is the measure of the owned land, because land constitutes an important capital for the farmers to do their farming activity. Land is thought to be crucial and main factor for the success of coconut farm enterprises since it is there that the production takes place.

Most of coconut farmers (50 %) in Tombatu have >2 ha coconut plantation while in Tenga, most of coconut farmers (51,6) own 1 -, 2 ha coconut plantation. Compared to the owning of the land, it can be said that most of the coconut farmers in the Tombatu are categorized as rich farmers or have a large coconut plantation. Whereas

the farmers of Tenga can be assumed to be middle class farmers.

Viewed from the capital for farm enterprises, it can be summarized that the capital of farmers from Tombatu is classified to be very supportive for running the coconut farm enterprises. Unlike, the capital of farmers of Tenga is considered to be sufficient to support the coconut farm enterprises. However, in general, the condition of capital among the farmers in the areas is still in need of additional capital because the number of low capital owners is still bigger than the high capital ones. On the ground of the research, it can be proposed that the number of labors of the coconut farm enterprises in the two researched areas are among 3 – 7 workers who responsible for the land cultivation and the looking after of the plants for the production purpose.

The research also indicates that generally the farmers of the two areas demand more means of production for both land cultivation and coconut production process. Concerning the attendance in the guidance and counseling service, the research displays that there is difference of attendance frequency to guidance and counseling activities. The farmers from Tombatu tend to be more active in such activities than the farmers from Tenga do.

Other aspect arises from the research is the type of planted coconuts. The types of coconut that mostly planted in the two areas are the type of *genjah* and *kelapa Dalam*. The second mentioned is dominantly planted because it is more economic and productive.

Land processing as the effort to preserve the coconut crops is thought to crucial and determinant in increasing the coconut productivity. In general, it can be explained that the soil tillage is done through land clearing. Other effort is by utilizing the land for a short term such as for corn, paddy, grains, and cassava and other plants.

5. The aspects of human resources influencing the development of farm enterprises.

Besides geographical and economic factors, human resources also serve to be important for determining the development of coconut farm enterprises. Human functions as the manager and the doer of farm enterprises. This means the success and failure of farm enterprises depend upon human in this case the farmers who are directly involved in farm enterprises.

The research also finds that the level of education of the farmers in the areas is sufficient. The farmers from Tombatu is low educated that is 41,7 % of whom have elementary school background or low level education. Whereas farmers from Tenga is approximately 44,4 % grouped into junior high school background.

The technology awareness of the farmers of the two districts is good enough. It is so since they have joined trainings related to the coconut production. The farmers have participated in training such as copra production, the making of and beverage from coconut. In other words, the farmers of the two areas have been familiar with the trainings connected to the improvement of coconut productivity.

The use of economic institution, displayed by the research, is rarely done by the farmers. They infrequently make use of the economic institution as *Mapalus* or *Gotong Royong* (Volunteerism). In addition, management of farm enterprises is still far from being modern including the management of copra, cooking oil, and other coconut products. In short, the management is very simple.

6. The relationship between economic factor and the productivity of coconut crop.

Referring to the research result, it is seen that farmers from Tombatu is economically better than those of Tenga. This indicates the development of coconut farm enterprise in Tombatu area is more productive compared to Tenga. It describes that the larger productive coconut plantation guarantees the increase of coconut productivity. Besides, the efficient capital owning, the availability of production tools, the active and effective attendance to guidance and counseling ensure the incline of coconut crop productivity and the opportunity to have various coconut products which, later, affect the local income.

7. The relationship between Human resources factor and the variation of coconut product.

Based upon data analysis, it is clear that coconut farmers in the classification of good human resource quality tend to be more positive and creative in varying the kinds of the coconut product as the effort to gain more economic values of coconut. The criteria for the quality of human resource in this study are level of education, technology awareness, the use of economic institution and management.

Thus, if a farmer has a good education, has a set of technical capability, use effectively the economic institution and practice good management in running the farm enterprise, there will be a propensity to be more success in adding more economic values for the coconut particularly improving the product variation.

It is true that copra is still the main product of coconut. However, the recent economic crisis attacking the coconut farmers suggests the need to have alternative products of coconut. Some steps have been taken for instance, adapting the coconut to the household and market demand, making

Virgin Coconut Oil (VCO), producing food from coconut and other kinds of product from coconut. These steps are efforts to vary the coconut product. It is expected through varying the coconut product in order to increase the income of coconut farmers and local income.

Based upon the data analysis, it is found that the farmers from Tombatu tend to be more motivated to increase the variation of coconut product. It can be identified from their success to produce five kinds of coconut product such as copra, cooking oil, virgin coconut oil, food from coconut, coconut handicraft, and other kinds of product in limited quality and quantity.

8. The Strategy to develop coconut farm Enterprise .

The main potentials of developing coconut crop are the land for coconut plantation and farmer as the cultivator. Some efforts are advised to the farmers in the sense of developing the coconut farm enterprise; the coconut tree rehabilitation, intensification, plant diversification as well as coconut product diversification and their derivation, the farmers and their institution enforcement. These steps are carried out to optimize the use and management of the area resource headed for the increase of coconut productivity and oriented on the adding income and welfare of farmers and the area.

The rehabilitation is conducted to condition the coconut as the main crop of the area as ever to be optimally productive. Other target of this action is to improve the economic value and competitiveness of coconut. It is also done in a hope to allow the farmers to use their lands as the source of income.

Intensification is partially carried out by giving the priority toward the productive plants with low productivity. It is done

through fertilizing , making use of organic waste from area around the coconut tree. While diversification is implemented through varying plants for the coconut farm enterprise.

The development of farmer resource by prioritizing on organization development and *mapalus* culture as the effort the work ethic of productive farmers including the improvement of technical preservation, post-harvest treatment and continual product processing.

Other related effort that is become the basis of agribusiness development especially marketing management and product processing. Developing the access of the farmers to information, technology, and capital as well as development of the farmer's knowledge and managerial skill.

The strategy of developing farm enterprise with the main target to use optimally the potential resources that influence the development of coconut crops and the farmer enforcement as the manager who is directly involved in the use and management of coconut farm enterprise.

F. Conclusion

This research concludes that the characteristic of land as the geographical factor such as topography, rainfall, elevation, average temperature is suitable for the coconut farm enterprises. Economic factor as a resource component determine the success of the farmers in increasing coconut productivity. Thus, the economic factor has internal positive character that encourages the farmer to increase the productivity of coconut crop comprising the land possession, the capital possession, means of production, labor, the attendance to guidance and counseling, type of coconut, soil tillage and price stability..

The human resource factor determines the success of farmers in

developing the coconut farm enterprises especially to increase the coconut product variations which can be seen as the effort to attain more economical values for coconut. Human resource covers education aspect, technical knowledge, management, the use of *mapalus* or *gotong royong* as the farmer enterprise institution.

The factors that hinder the development of coconut farm enterprises are the less productive coconut due to the aging, the low average of education, the lack of attending the guidance and counseling, the limited capital, the less use of economic institution, the weak farm enterprise management and the disadvantageous price fluctuation.

The strategies to improve the productivity of coconut farm enterprises are a) the land rehabilitation including the rejuvenation of the old coconut tree, fertilization and bio-control. b) the improvement of ability of product processing, the improvement product variation. c) the market stability and the addition of capital. These strategies are expected to be able to increase the farmers' income, and in turn, to increase the local area income.

Bibliography

- Awang, San Afri. 1991. *Kelapa Kajian Sosial Ekonomi*. Aditya Meditya. Yogyakarta
- Balitka. 2000. *Perkembangan Kelapa Sulawesi Utara*. Balitka, Sulawesi Utara.
- Balitka. 2002. *Perkembangan Kelapa di Sulawesi Utara*. Balitka. Sulawesi Utara.
- Bintarto and Surastopo. 1982. *Method Analysis Geografi*. LP3S. Jakarta
- BPS. 2000. *Indikator Ekonomi tahun 2000*. BPS Pusat Jakarta
- DASP 1990. *Economic of Cocconut farming system*. APCC. Jakarta
- De Sauza and Daswir. 1992. *Faktor-Faktor yang mempengaruhi Usahatani Kelapa*. Jurnal Perkebunan
- Goodall, B. 1987. *A Dictionary of Modern Human Geography*. Penguin Books. England .
- Hagget, P. 1975. *Geography A Modern Synthesis*. Harper & Row. New York .
- Husen H, Amrizal and Kodongan, N. *Keragaman Usahatani Kelapa: Studio Kasus di Minahasa*. Buletin Balitka nomor 5 & 6 Mei-September 1998. Manado : Balitka
- Kitchin, R and Tate, N.J 2000. *Conducting Research in Human Geogarphy, Theory, Methodology*. Perason Eduacation Limited. United Kingdom
- Loho, A.E. 1995. *Optimasi Pemanfaatan Usaha Tani Kelapa di Sulawesi Utara*. Tesis S2 UGM. Yogyakarta
- Mantra Ida Bagus. 1998. *Langkah-langkah Penelitian Survey usulan penelitian dan laporan penelitian*. Badan Penerbitan fakulats geogarfi UGM Yogyakarta ..
- Maurits. H.K. 2001. *Kajian Faktor Sosial Ekonomi dan perkembangan Usahatani Kelapa*. FIS UNIMA. Tondano-Manado
- Mubyarto. 1991. *Pengantar Ekonomi Pertanian*. LP3ES. Jakarta .
- Pusat Studi Asia Pasifik. 1999. *Rancang Bangun Sistem Informasi Geografi Untuk Menunjang SPAKU (Sentra Pengembangan Agribisnis Komoditi Unggulan) di Sulawesi Utara dan Sumatera Utara*. PSAA Yogyakarta .
- Suhardiyono. 1995. *Tanaman Kelapa Budidaya dan Pemanfaatan*. Kanisius Yogyakarta.
- Warouw. 2005. *Master Plan / Rencana Induk Komoditas Perkebunan Prpinsi Sulawesi Utara*. Kerjasama Cooperative Commodity Development Centre (CCDC) Propinsi Sulawesi Utara dengan Dinas Perkebunan Propinsi Sulawesi Utara.