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Development strategy of candlenut oil business toward a new paradigm for the utilization of non-timber forest products

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Abstract

In an effort to realize productive and sustainable forest management in a unified and comprehensive forestry development unit so that the economic (Sustainable Production), social (Sustainable Social and economic) and environmental (Ecological Sustainable) benefits for all parties based on the identification of the potential superiority of regional commodities, Forest Management Unit (KPH) has compiled a business development plan to improve the economic community in and around the forest, through the development of various productive businesses utilizing timber and non-timber forest products (NTFPs). Therefore, it is necessary to develop a business strategy to overcome the weaknesses and threats by utilizing internal and external strengths and opportunities in efforts to develop sustainable rural agro-industry. The study was conducted at a pilot location of the KPH Kulawi candlenut oil processing business, Central Sulawesi Province. Communication and observation techniques were carried out using a questionnaire through individual interviews and group interviews. While the business development strategy is carried out through focus group discussions (FGDs) involving stakeholders, namely the KPH, raw material producing farmers, processing farmers, target village governments, local governments, the business world and academics with a total of 15 respondents. Based on the SWOT Matrix, The choice of strategies that can be applied are resource optimization, increasing product quality at competitive prices, increasing managerial skills and HR skills and efficiency in production costs. While policies that can support business development include easy access to capital, facilitating export bureaucracy mechanisms and the existence of business associations as a source of market and price information.

Keywords: candlenut oil; development strategy; NTFPs

1. Introduction

The domestic forest paradigm calls for the integration into forest science of a new concept of land management in which production and conservation are compatible, and in which there is no choice to be made between people and nature (Michon *et al.*, 2007). Tropical forests could satisfy multiple demands for goods and services both for present and future generations (Guariguata *et al.*, 2010). The description confirms the need for a more accommodative and multy-sectoral forest management strategy in the long term that is not only based on ecological aspects but also from the socio-economic element (Jumiyati *et al.*, 2019).

Some years ago, most forest enterprises exclusively focused on wood production, whereas today, forest management is expected to be multifunctional and economically as

well as socially and ecologically sustainable (Kilchling *et al*., 2009). The potential long-term economic returns from forests managed for non timber forest products (NTFPs) are greater than the net returns from timber or forest conversion to agriculture (Hiremath, 2004). NTFPs are increasingly recognized globally as important in supporting the livelihoods of forest-dependent (Mitchell and Hobby, 2010).

Based on the identification of the potential advantages of local commodities and considerations that NTFPs can make to rural livelihoods, and the fact that their use is less ecologically destructive than timber harvesting, have encouraged the belief that more intensive management of forests for such products could contribute to both development and conservation objectives, and have led to initiatives to expand commercial use of NTFPs (Arnold and Pérez, 2001). The agenda of sustainable self-sufficiency is the main agenda that is inseparable from other agendas such as product diversification, increase in added value, competitiveness, exports, and improvement prosperity of farmers (Jumiyati *et al*., 2018).

Many individual NTFPs were historically mainstream trade commodities, but their diminished importance in international trade after World War II meant that they become almost invisible in forest statistics, management, and policy (Sills *et al*., 2011). The Minister of Environment and Forestry (LHK) stated that in the industrial era 4.0 the business potential of Environmental Services and NTFPs would become a reliable multi-business industry. At present 90% to 95% of forest potential is obtained from NTFPs. Efforts to realize the government's goal to increase non-oil exports will lead to the formation of industrial clusters of NTFP management even to the management of derivative products.

The prevalence and ranking of non-timber forest products (NTFPs) as safety-nets has been well discussed, but rarely quantified (Paumgarten and Shackleton, 2011). Endress *et al*. (2006) add that rural people worldwide rely on NTFPs to generate income to meet livelihood needs. There is a new and increasing emphasis on poverty alleviation and livelihoods improvement in forestry, representing both a challenge and an opportunity (Belcher, 2005). In addition, it also has a competitive advantage in the form of product price competitiveness in local, national and international markets (Jumiyati *et al.*, 2017). The production and marketing of non-timber goods (NTFP) and services gained importance in forest management as demand for these increased considerably. However, due to lack of relevant information on the level of output of non-timber products, its economic significance was seldom accounted for in the valuation of forests (Mahapatra and Tewari, 2005).

Rural development policies should recognize the role played by NTFPs in rural livelihoods and the need to balance welfare improvement and sustainable forest management (Mulenga *et al.*, 2014). Despite this, some research demonstrates that although NTFP are an important livelihood source, market integration and commercialization is not everywhere an appropriate or realistic strategy (Pyhälä *et al*., 2006). The general business problem is a lack of information and groundwork to sustain in business for the long-term and the specific business problem was some small business owners lack strategies on how to sustain business (Helms *et al*., 2011). It is important that poverty alleviation strategies recognize the extent of household participation in NTFP business activities and the important contribution of NTFPs to overall household welfare and income diversification (Mulenga *et al.*, 2011).

Agro-industry is a strategic agribusiness subsystem and is an initial step in the development of the industrial sector, especially in rural areas (Wongkar *et al*., 2017). Agro-industrial activities can also play an important role in the development of local entrepreneurship (Fathi and Norouzi, 2015). Upgrading technical, business and financial capacities and creating special institutional arrangements for business management will add value to timber and NTFPs, reduce production and administration costs, facilitate new business partnerships (Donovan *et al.,* 2006).

Priority business plan of KPH is a translation of the 2016-2020 Forest Service Strategic Plan. Therefore, it is necessary to develop a business strategy to overcome the weaknesses and threats by utilizing internal and external strengths and opportunities in efforts to develop sustainable rural agro-industry.

2. Methods

The study was conducted at a pilot location of the KPH Kulawi candlenut oil processing business, Central Sulawesi Province. Determination of location and respondent using purposive sampling method. The type of data used in this study are primary data and secondary data in quantitative and qualitative forms. Primary data obtained through communication and observation techniques. Communication and observation techniques were carried out using a questionnaire through individual interviews and group interviews. While the business development strategy is carried out through focus group discussions (FGDs) involving stakeholders, namely the KPH, raw material producing farmers, processing farmers, target village governments, local governments, the business world and academics with a total of 15 respondents. While secondary data is data that is already available or that comes from outside the institution or research location (Creswell, 2016). The process of developing a business development strategy is carried out through an analysis phase which consists of the data collection stage as well as the situation analysis and strategy determination stage. The data collection stage is a classification and pre-analysis activity. Data collected consists of internal data and external data. Internal data obtained from within the company in the form of financial reports, HR activity reports, operational activities reports and marketing activity reports. While external data can be obtained from the environment outside the company in the form of market analysis, competitor analysis, community analysis, supplier analysis, government analysis and specific stakeholder analysis (Rangkuti, 1998).

The situation analysis and strategy determination phase is carried out by gathering all influential information and formulating all of that information in a quantitative model of the formulation of business development strategies. The analytical method used to find the strategic development model of the Central Sulawesi KPH Kulawi oil processing business is the SWOT analysis (Strength, Weakness, Opportunity and Threat). SWOT analysis can clearly illustrate how external opportunities and threats faced can be adjusted to the strengths and weaknesses that they have. This analysis is based on logic to maximize strengths and opportunities but at the same time can minimize weaknesses and threats. The strategic decision making process is always related to development goals. Thus the strategic planner must analyze the business strategic factors (strengths, weaknesses, opportunities and threats) in the current conditions, called the situation analysis. The most popular model for situation analysis is SWOT analysis.

SWOT strategic factors as an analysis variable include capital, production technology, availabilities of raw materials, Human Resources (HR), management, marketing, prices, promotions, business competition, infrastructure, bureaucracy and partnerships. The identification of the combination of the analysis variables will be presented through a strategy combination table called the SWOT matrix. This matrix can produce four quadrants of possible alternative development strategies.

Table 1. Matriks SWOT

Internal / External	Strenght (S)	Weakness (W)
Opportunities (O)	SO Strategies that use power to take advantage of opportunities	WO Strategies that minimize weaknesses to take advantage of opportunities
Threat (T)	ST Strategies that use power to overcome threats	WT Strategies that minimize weaknesses to avoid threats

The strategy determination phase is carried out by considering internal and external factors in various combinations based on quadrants and illustrated in diagram form.

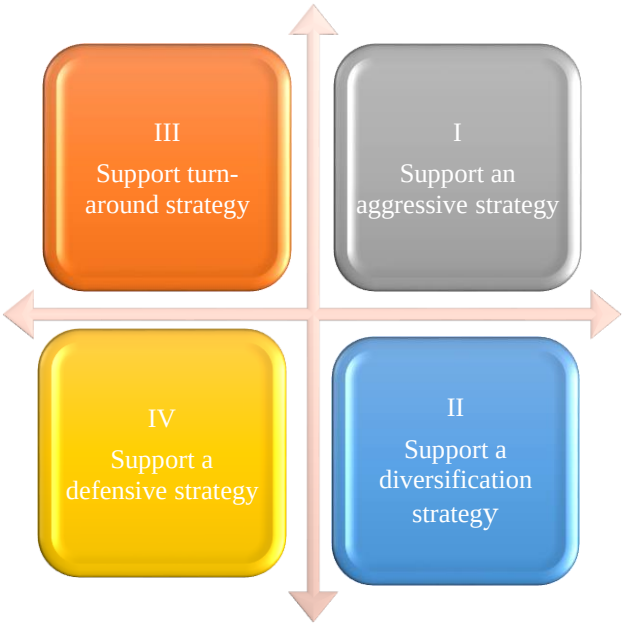

Figure 1. Strategy Determination Diagram

Information:

Kuadran 1: The company has opportunities and strengths so that they can take advantage of existing opportunities. The strategy that must be applied in this condition is to support an aggressive growth policy.

Kuadran II: The company still has internal strength despite facing various threats. The strategy that must be applied is to use power to take advantage of long-term opportunities by adopting a diversification strategy (product / market).

Kuadran III : The company faces enormous opportunities, but on the other hand has some internal weaknesses. The strategy that must be implemented is to minimize internal weaknesses to seize better opportunities.

Kuadran IV: The company faces a very unfavorable situation because it has various internal weaknesses and faces various threats.

3. Results and Discussion

Based on internal and external data that have been collected, the next is to identify internal factors consisting of strengths and weaknesses as well as external factors which represent opportunities and challenges for the development of candlenut oil agro-industry in Central Sulawesi.

3.1. Identification of Internal Strategy Factors

3.1.1. Strengths

- Abundant raw materials
- Quality of raw materials
- Availability of labor
- Strategic business location
- Favorable product market prices

3.1.2. Weaknesses

- Lack of ownership of venture capital
- Production technology used is relatively simple
- Lack of expertise and skills of the workforce
- Lack of business management capabilities
- Lack of information and product promotion

3.2. Weighting of Internal Strategic Factors

After identifying the internal strategy factors, the internal strategy factor weighting is then presented in the following Internal Strategic Factor Analysis Summary (IFAS) table.

Table 2. Table of IFAS

Internal Strategy Factors	Weights	Rating	Weights x Rating
Strengths			
▪ Abundant raw materials	0,15	4	0,60
▪ Quality of raw materials	0,10	4	0,40
▪ Availability of labor	0,10	3	0,30
▪ Strategic business location	0,15	3	0,45
▪ Favorable product market prices	0,15	3	0,45
Weaknesses			
▪ Lack of ownership of venture capital	0,15	2	0,30
▪ Production technology used is relatively simple	0,05	2	0,10
▪ Lack of expertise and skills of the workforce	0,05	1	0,05
▪ Lack of business management capabilities	0,05	1	0,05
▪ Lack of information and product promotion	0,05	1	0,05
Total	1,00		2,75

3.3. Identification of External Strategy Factors

3.3.1. Opportunity

- Access to capital from the government
- Development of production technology
- Skills and management training opportunities
- Market demand is quite broad
- There are no competitors at the local level

3.3.2. Threat

- Lack of market information for outside the region
- Lack of partnership opportunities
- Lack of government role in the aspect of technology adoption
- Limited business supporting infrastructure
- Lack of support for the export bureaucracy mechanism

3.4. Weighting of External Strategic Factors

After identifying the external strategy factors, the external strategy factor weighting is then presented in the following Internal Strategic Factor Analysis Summary (IFAS) table.

Table 3. Table of EFAS

External Strategy Factors	Weights	Rating	Weights x Rating
Opportunity			
▪ Access to capital from the government	0,15	4	0,60
▪ Development of production technology	0,10 0,15	3 4	0,30 0,60
▪ Skills and management training opportunities	0,15	4	0,60
▪ Market demand is quite broad	0,10	3	0,30
▪ There are no competitors at the local level			
Threat			

▪ Lack of market information for outside regions	0,10	2	0,20
▪ Lack of partnership opportunities	0,10	2	0,20
▪ Lack of government role in aspects of technology adoption	0,05	2	0,10
▪ Limited business supporting infrastructure	0,05	1	0,05
▪ Lack of support for the export bureaucracy mechanism	0,05	1	0,05
Total	1,00		3,00

Based on the weighting of internal and external strategic factors presented in the tables in the IFAS and EFAS tables, a strategic determination of the development of the hazelnut oil processing business can be made as follows:

Table 4. SWOT Matrix

Internal / External	Strengths (S) ▪ Abundant raw materials ▪ Quality of raw materials ▪ Availability of labor ▪ Strategic business location ▪ Favorable product market prices	Weaknesses ▪ Lack of ownership of venture capital ▪ Production technology used is relatively simple ▪ Lack of expertise and skills of the workforce ▪ Lack of business management capabilities ▪ Lack of information and product promotion
Opportunity ▪ Access to capital from the government ▪ Development of production technology ▪ Skills and management training opportunities ▪ Market demand is quite broad	SO **Optimize the availability of available resources to meet market demand**	WO **Improve managerial skills and HR skills to deal with technological developments**
Threat ▪ Lack of market information for outside the region ▪ Lack of partnership opportunities ▪ Lack of government role in the aspect of technology adoption ▪ Limited business supporting infrastructure ▪ Lack of support for the export bureaucracy mechanism	ST **Improve product quality at competitive prices to meet local market demands**	WT **Efficiency of production costs by utilizing existing technology and trying to establish partnerships**

4. Conclusions

Based on the SWOT Matrix, four main strategies can be prepared, namely SO, WO, ST and WT which have different characteristics, but in implementing the strategies, they must be implemented together and support one another. Alternative strategies that can be chosen are resource optimization, following up on market demand, increasing product quality, setting competitive prices, increasing managerial skills and HR skills, efficient production costs and increasing partnerships. The choice of strategies that can be applied are resource optimization, increasing product quality at competitive prices, increasing managerial skills and HR skills and efficiency in production costs. While policies that can support business development include easy access to capital, facilitating export bureaucracy mechanisms and the existence of business associations as a source of market and price information.

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