Redevelopment strategy of Sambas orange

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Abstract. This research aimed to investigate the best redevelopment strategy of Sambas Orange. The fruit was the icon of Sambas Regency. The damaged Sambas orange plants were caused by some factors such as its trade system. There are many farmers who are growing the orange. They are expecting that the fruit become the icon of the place so that it can increase their welfare. This research was conducted in 2018 in Tebas District, Sambas Regency, the center of Siam orange plantation. The sampling was through two stages. The first stage was determining the sample of village through purposive sampling; Segarau Parit was chosen for its large area and high production number. The second stage was determining the sample of farmers through random sampling. SWOT analysis was implemented. The result of research revealed that the required strategy was aggressive Growth-Oriented Strategy.

1. Introduction
Local Economic Development is a development policy of a region based on the sectors becoming its top product. A cluster-based development is a systematic and planned effort as the forum of economic activities for local people. The development is done by the stakeholders of a region on its products which have been decided and agreed together with considering certain criteria (attractiveness and competitiveness). The top products were developed using the relations of supporting elements and were integrated into the management of the supply chain [1-2]. Regarding its production value, orange was the top commodity of Sambas that was worthy of development. There were about 160 varieties of orange which were cultivated throughout Indonesia [3]. Pontianak Orange (Citrus nobilis Lour. Var microcarpa Hassk) was more preferable variety due its high production level and delighting organoleptic properties. Furthermore, the orange had become the icon of Sambas Regency; redevelopment of the orange agribusiness was required.

The redevelopment is required for some reasons. First, regarding its both comparative and competitive superiority, Siam orange agribusiness in Sambas Regency in general had high competitiveness level so that it was able to compete with imported oranges [4]. Besides, there were many farmers who were still growing the orange [5]. The third reason is that the orange could improve the supply which continuously increasing every year and was always available throughout the year. In addition, the business was supported by the local government of Sambas Regency, as stated in the Decree of Sambas Regent No. 163 A/2001, stipulating that orange was the main commodity of Sambas Regency.
The mission of restoring the glory of the orange in Sambas Regency, West Kalimantan, has been implemented since 2016 through a series of activities. One of the focuses is the demonstration plot of growing new blue-labeled (free disease) 2000 orange trees which was performed in Matanglabong and Pusaka, Tebas. The success of redevelopment depended on some factors: choice of people, correlation with the existing planning, level of interest, private capital, expense on field and redevelopment, resale price, alternative redevelopment of other activities. The mechanism of integrated planning which encouraged the bigger competitiveness of production system had to consider all the related production components [6]. Therefore, an appropriate strategy to implement the redevelopment of orange agribusiness in Sambas is required.

Some researches on Sambas orange have been done. However, they did not specifically focus on the redevelopment strategy of Sambas orange. Therefore, this research aimed to design a redevelopment strategy of Sambas orange so that it becomes the regional icon resulting in better economy and welfare of Sambas Regency.

2. Materials and Methods

Sambas Regency is located in north part of West Kalimantan Province or lines between 0°57’29.8” to 2°04’53.1” North Latitude, and from 108°54’17.0” to 109°45’7.56” East Longitude. Administratively, regional boundaries of Sambas Regency are: 1). North: Serawak (East Malaysia) and Natuna Sea; 2). South: Bengkayang Regency and Singkawang City; 3). West: Natuna Sea - East: Serawak (East Malaysia) and Bengkayang Regency. Total Area of Sambas Regency is 6,395.70 km² or about 4.36 percent to total area of West Kalimantan Province. The areas of Sambas Regency in 2015 were divided into 19 districts and 193 villages. The largest district is Sajingan Besar having 1,391.20 km² area or 21.75 percent of Sambas Regency, and the smallest district is Tekarang broadly equal to 82.75 km² area or 1.29 percent of Sambas Regency.

Seen from its soil texture, most of the areas, 230.63 thousand hectares or 36.06 percent of the areas are alluvial soil. The other areas, 157.32 thousand hectares or 24.60 percent of areas, throughout districts are red-yellow podzolic soil. Of 4,554,520 fruit commodities of Sambas Regency, 74.28% (3,383,110) are orange trees. The case of Sambas orange is a bad sample of government intervention to the development of agricultural products. The delayed redevelopment of Sambas orange was led by the appearance of conflict of interest. The fit formulation for returning the glory of the orange has not been found. The Siam orange agriculture in Sambas was formed as a result of natural cooperation between farmers and broker in a long time. There were three important moments of the development of the orange farming: marketing domination by brokers (1950s – 1990), marketing domination by companies (1991-1997), and recovery (2000 – now) [7]. Programs of redevelopment of the orange agribusiness created some fundamental problems which are increasing price of production infrastructure and fluctuated orange price. This was a result of low bargaining position of farmers among other agribusiness agents’ [8].

The Indonesia import of orange was bigger than its export. Nevertheless, the data showed that the domestic fruit production was bigger than the demand was. This indicated that there was problem found in either Indonesian orange productivity or validity. Thus, Indonesian orange still had wide opportunity to compete with other countries [9-10]. The competition in both national and international markets created more complex market structure; it was possible to change. This forced companies to design long term plan, check the competitors’ activities, and make dynamic decision for saving their lives [11].

The efforts of company strategy development had fostered studies on some approaches which had been up and down and popular from time to time. One of the most popular ones was SWOT analysis [12]. Traditionally the analysis was opinion sharing. Therefore, it was criticized for its subjective point of view of participating individuals and its possibility to result in improper strategic actions [13]. Meanwhile, SWOT analysis remained popular for determining strategy to implement [14].

Sufficient macro and micro nutrient for orange trees was one of factors determining the quality of fruit. The supply of nutrient in soil depended on the soil texture. This protected the nutrient in soil. The
alluvial soil in Tebas district was one of the good soil texture so that it was good for the development of orange trees [15].

This research was conducted in Segarau Parit, Tebas District, Sambas from May 2018 to July 2018. The village was chosen for its large area. The population involved 293 Siam orange farmers in Segarau Parit. The sample was 40 farmers (15%). Purposive sampling was done to choose representatives of each marketing channel which includes collectors, wholesalers, and retailers.

SWOT analysis was used. It was a useful tool for strategic planning in management field; it supplied basic information to identify any situation and to design required planning procedure in making strategy [16]. SWOT matrix was used to analysis not only internal strength and weakness, but also external opportunities and threat in order to get the promising strategy in the future [17]. This method analyzed strength, weakness, opportunity, and threat of either the available plan to implement or the new plan in the future. First, the strength of plan was possible to be benefits for an organization in implementing it. Second, the weakness of the plan was possible to be obstacle that had to be avoided so that the organized plan was successfully implemented to achieve the goal. Third, it was used to identify any opportunities related with the plan and method in the implementation; the method detected the possible threat in the future. The analysis resulted in four types of strategy: SO, ST, WO, and WT [18]. According to Fred (2006), there were several required steps to design SWOT analysis: 1) listing external opportunity of the determining companies, 2) listing external threat of the determining companies, 3) listing internal strength of the determining companies, 4) listing internal weakness of the determining companies, 5) matching internal strength and external opportunity and recording the strategy result (SO) in the right cell, 6) matching internal weakness and external opportunity and recording the strategy result (WO) in the right cell, 7) matching internal strength and external threat and recording the strategy result (ST) in the right cell, and 8) matching internal weakness and external threat and recording the strategy result (WT) in the right cell.

3. Results and Discussion

Directorate General of Agriculture implemented the areas development of horticulture; chilly, onion, and orange were the main commodities, referring to Decree of Minister of Agriculture No. 45/Kpts/PD.200/1/2015. The areas of commodity development were chilly (Melawi Regency and Kubu Raya Regency), onion (Mempawah, Pontianak Regency, Kubu Raya Regency, and Pontianak City), and orange (Sambas Regency, Bengkayang Regency, Mempawah, and Kubu Raya Regency). The development of orange in Sambas Regency was done for its long history of orange agribusiness [7].

The analysis on internal environment was done through functional analysis which was possible to be the source of farmers’ strength and weakness. The internal environment of farmers involved marketing, production, operation, and finance. Whereas the analysis on external environment was done through functional analysis which was possible to be threat and opportunity. This involved socio-culture, technology, and nature.

The results of thorough investigation towards the population sample of farmers revealed some factors which became strength, weakness, opportunity, and threat in redevelopment of orange agribusiness. The strength factors included: 1) private venture capital; 2) superior seed use; 3) good fruit quality; 4) satisfying crops; 5) sustainable orange stock supply. The weakness factors included: 1) inadequate marketing access; 2) less promotion; 3) fluctuated orange price; 4) low selling price; 5) less record of revenue. The opportunity factors included: 1) Suitable land and climate for orange plantation; 2) supportive local government; 3) less competitiveness; 4) the one day sale; 5) population growth. The threat factors included: 1) less attention of extension officer, 2) narrow marketing area, 3) low demand, 4) reduced price during the harvest period.

Applying comparative method, the weight of each factor was evaluated in order to find the correlation of each factor to others and to determine the right strategy of planning for achieving the intended target.

The analysis results of internal and external factors could be used as reference of decision making in choosing the key success factors and in mapping the strength position of Siam orange farmers to run
their business. The determinant of key success factors (KSF) was based on the biggest total weight value (TWV) of all categories. The KSF of each factor are as follow.

| Strength                  | Weakness             | Opportunity                                      | Threat              |
|---------------------------|----------------------|--------------------------------------------------|---------------------|
| Good fruit quality        | Low orange price     | suitable land and climate for orange plantation  | Low demand          |

Based on the total weight value (TWV), the position of strength, weakness, opportunity, and threat are: $S = 1.65$, $W = 0.63$, $O = 0.91$, and $T = 0.84$. In accordance, the coordinates of quadrants are: $(S-W) = (1.65 - 0.63)$ and $(O-T) = (0.91 - 0.84)$, precisely in quadrant I ($1.02 : 0.07$).

Figure 1 reveals that the required strategy was SO strategy. This was an advantageous condition. This could be done by using all strengths to seize opportunities and by using the opportunities maximally. The possible strategy was Growth-Oriented Strategy. It was developing orange production through intensification and extensification [8].

In accordance with the results of some researches, the factors which influenced the orange production are: 1) plant age, 2) field width, 3) fertilizer use, 4) manpower, and 5) farmers’ experience. The factors influencing production of Citrus Grandis L. Osbeck in Aceh Besar Regency involved capital, working hour, and plant number [19]. In addition, another factor influencing fruit diameter and weight was pruning [20]. The control of pest and post-harvest time also required high consideration for improving orange production [21].

The redevelopment of Sambas orange agribusiness needed the right steps and strategies. Consequently, it required business model functioning as an important strategic tool of innovative
process and market development [22]. The developed strategies involved both market and non-market strategy; non-market strategy included organization performance.

In addition to the main strategies above, there are other alternative strategies. They were obtained from the key factors of each SWOT component. The key market factors are low orange price and low demand; they key non market factors are good fruit quality and low demand. The developed strategy is the interaction of the factors (Table 2).

| Suitable Land and Climate | Good fruit quality | Low Demand | Promotion Outside Region | Post-Harvest Management | Efficiency Harvest Time | Trade System Management |
|---------------------------|--------------------|------------|--------------------------|------------------------|------------------------|------------------------|

The harvested fresh agricultural products experienced some kinds of stress such as the loss of nutrient and mineral supply of their natural growth and considerable different environment of their natural development circumstances. The stress resulted in degeneration, wilt, and death of the harvested plants. Whereas there was human need requiring long term management of the plants after being harvested. As a consequence, conflict of interest appeared. To keep the plants alive, compromises through some specific management methods of post-harvest period were taken place. For optimum compromises, physiological, physical, pathological, and economic consideration had to be taken into account. The compromise forms were actualized into post-harvest actions such as pre-sorting, cleaning, waxing, disease and insect controlling, grading, controlled cooking, degreening, and curing [23].

The orange trading needed to be fostered to enter both domestic and international markets. To get fruits meeting the requirement of export quality standard, the needed pre-harvest technologies involved: 1) picking fruit time after 28 weeks of flowering with diameter > 6 cm and with total dissolved solids (TDS) content >100Brix, 2) physiological maturity level of skin at level I (green) and II (yellowish green) for fresh sweet taste, 3) picking method using pruner shears and leaving short fruit stalk for delayed physical and chemical degradation of fruit quality [24].

The management of orange trading system in Sambas required special consideration. In the history of its trading, this became the cause of the ruined prestige of Sambas orange. Based on the history, there were three important moments: marketing domination by brokers, marketing domination by companies (1991-1997), and recovery (2000 – now). This agriculture contributed great advantages to farmers from the mid of 1980s until 1990, during domination of brokers period. Nevertheless, the period fell after the direct intervention of government in the form of appointing private companies as marketing organizers. The appointment was done in 2000 based on regional government initiative, and in this period the marketing mechanism was retaken over by brokers [7]. Therefore, the trade system provided great benefits for each businessman involving in gaining benefits according to the sacrifice.

4. Conclusion
Based on the discussion, it was concluded that: 1) Orange was a commodity worthy of redevelopment in Sambas Regency for many farmers managing the agribusiness, and 2) the main chosen strategy of the redevelopment of Sambas orange was Growth Oriented Strategy through intensification and and extensification approach. In addition to the main strategy, the possible alternative strategies are: efficiency, harvest time management, promotion outside region, post-harvest management, and trade system management. To make Sambas orange the icon of the region requires good coordination of all parties, farmers, traders, and government, involved in the agribusiness. This is necessary them to gain benefits according to their sacrifice.
References

[1] Nusantaro J 2011 Proc. Nat. Conf. Ekonomi Terapan (Semarang, Indonesia: Fakultas Ekonomi UNIMUS) p 7.
[2] Susanto H 2014 J. Rural Dev. 5 63.
[3] Sarwoko B 1986 Jeruk dan Kerabatnya (Jakarta, Indonesia: Penebar Swadaya).
[4] Sayekti A L and Zamzami L 2011 Widyariset 14 1-9.
[5] Muani AA and Suyatno A 2012 Jurnal Sains Mahasiswa Pertanian 1 22-31.
[6] Van Der Vorst J A, Silva C A and Trienekens J H 2007 Agroindustrial supply chain management: concepts and application (Rome, Italy: FAO).
[7] Sudrajat J 2018 Paramita: Historical Studies Journal 28 70-79.
[8] Saragih J R 2018 Talenta Conference Series: Local Wisdom, Social and Art 1 (Medan, Indonesia: Universitas Sumatera Utara) p 62.
[9] Hanif Z and Zamzami L 2010 Trend jeruk impor dan posisi Indonesia sebagai produsen jeruk dunia (Jakarta, Indonesia: Balai Penelitian Tanaman Jeruk dan Buah Subtropika)
[10] Haq N 2015 J. Online Mahasiswa 2 1-11.
[11] Senturk F K 2012 Procedia Soc. Behav. Sci. 58 11-18.
[12] Hill T and Westbrook R 1997 Long Range Plann. 30 1 46-52.
[13] Phadermrod B, Crowder M R and Wills G B 2019 Int. J. Inform. Manage. 44 194-203.
[14] Rizieq R, Youlla D and Maskuri 2018 Int. J. Multidiscip. Sci. 1 159-168.
[15] Suyanto A and Irianti T P 2011 Perkebunan dan Lahan Tropika 1 42-48.
[16] Nikolaou I E and Evangelinos K I 2010 Resour. Policy 35 226-234.
[17] Rauch P 2007 Eur. J. Forest Res. 126 413-420.
[18] Manteghi N and Zohrabi A 2011 Procedia Soc. Behav. Sci. 15 2068-2073.
[19] Azmi N 2016 Jurnal Ilmiah Mahasiswa Ekonomi Pembangunan 1 158-168.
[20] Namah C N and Sinlae D V 2019 Partner 1 14-25.
[21] Rizal M and Rahayu S P 2015 Proc. Nat. Conf. Masyarakat Biodiversity Indonesia (Bandung, Indonesia: Masyarakat Biodivesity Indonesia) 1 1492.
[22] Wieland H, Hartmann NN and Vargo SL 2017 J. Acad. Mark. Sci. 45 925-943.
[23] Mellahi K, Frynas J G, Sun P and Siegel D 2016 J. Manage. 42 143-173.
[24] Qomariah R, Hasbianto A, Lesmayati S and Hasan H 2013 Proc. Nat. Conf. Inovasi Teknologi Pertanian (Banjarbaru, Indonesia: BPTP Kalimantan Selatan) 417.