**Agribusiness System Development Strategy to Accelerate The Increase of Saba Banana Production in Seruyan Regency, Central Kalimantan Province**

*Authors : Hamdani (lecturer of Lambung Mangkurat University)*

*Co Author: Djoko Santoso (lecturer of Lambung Mangkurat University)*

*Coresponding Author: Hamdani (email: hdani342@gmail)*

***ABSTRACT***

*Saba banana is one of the popular types of bananas and its existence is spread throughout Indonesia. The priority of the development of production centers on extending outside Java is still very possible because of the availability of land that is still abundant and one of the potential centers is Kalimantan. This condition lead to conduct a study of banana agribusiness system to find alternative solutions to accelerate the increase in banana production in the region to increase farmers’ passion to expand production SWOT analysis results showed that development opportunities are at a low point due to lack of information on cultivation technology and marketing systems that are not optimal. The most relevant strategic steps to be taken to improve the technical capabilities of the business in each producer/farmers is to revitalize the group by expanding the scope of group activities on the technical aspects of production and especially the marketing aspects.*

**Key words:** Agribusiness, Saba Banana, System development, Technology, Development Strategy.

**INTRODUCTION**

Saba banana has long been known in Indonesia. This plant is quite popular among the community and the existence of this plant spread throughout the region so that it is easily found especially in rural areas in Indonesia. Characteristics of saba banana specific with a dense texture and more containing starch makes this banana is favored not only consumed directly as fresh fruit, but mainly used for various industries, both food industry and other industries based on bananas, Aguilar et al. (2007).

In terms of consumption, the need for bananas tends to increase because the average consumption rate per capita per year is still relatively low and stable throughout the year. Observations of food balance data in recent years show that the rate of banana consumption in Indonesia tends to increase. This tendency to increase consumption occurs mainly due to the increase in consumption for the industry (consumption of foodstuffs). Given that saba banana is able to serve as an industrial raw material, this situation is a reflection of the increasing demand for saba banana itself.

Cultivation of saba banana is generally done simply, (Johnson and Hofman, ed., 2004**)**. This plant becomes part of rural household plants that are commonly planted around the house and its backyard mixed with other plants. The treatment pattern is also still simple even without additional treatment after planting. Cleaning of weeds and fertilization is only done when it is deemed. Other cultivation techniques such as sapings, leaf reduction and so on are rarely done so that this plant grows and develops naturally so that its production is at a low level.

Banana production centers in Indonesia are mainly at province: Lampung, West Java and East Java. As for the provinces on the island of Kalimantan, the contribution to the production of Indonesian bananas is still very small, only about 4%. However, the potential for commodity development is huge given the high availability of land in the region. In the last five years, the development of banana production in Kalimantan tends to decrease with a decrease in production by 5.13%, although national banana production can be said to be stagnant, with a production growth rate of only 0.31% only. The decline in production occurred in three provinces namely West Kalimantan, Central Kalimantan and South Kalimantan. Meanwhile, the provinces of East Kalimantan and North Kalimantan experienced significant production increases. An overview of Kalimantan banana production levels is presented in Table 1.

Considering the development of the need for bananas, efforts to accelerate the increase in production need to be made. The best alternative to accelerate this increase in production is to implement monoculture cultivation efforts and apply adequate cultivation techniques so that simultaneous production and productivity can increase (Fatmawati and Dianawati 2015). The government through the relevant agencies has encouraged the development of monoculture banana farming on a more adequate land area. The development of banana farming monoculture is more possible outside Java because of the availability of land that is still possible for business expansion. One of the locations of the development of monoculture banana farming outside Java is carried out in several areas in Seruyan Regency, Central Kalimantan Province.

The development of mono-cultural saba banana farming in Seruyan Regency, Central Kalimantan Province was introduced by the government several years ago by utilizing the sleeping land owned by the villagers. This activity has turned Seruyan Regency into one of the centers of saba banana production in Central Kalimantan Province and even saba banana products of this district has reached the cross-provincial market area, especially Banjarmasin city market (South Kalimantan Province). However, this market expansion has not been followed proportionally by the increase in production, (Tukan et.al., 2020) . The production rate of saba banana of Seruyan regency even tends to decrease recently. The trend of reduced production is indicated by the low growth of mono-cultural banana farming area and reduced productivity due to banana bunches produced on average.

On the other hand, the wide difference in the price of farm gate level and level of consumer price can be one of the considerations (Artes et.al.,2013). This condition also causes stagnation in the business system of banana commodities of Seruyan Regency. The decrease in the passion of banana farming in Seruyan Regency will affect efforts to increase overall production.

In general, producers will be passionate about running their business when the rewards received are considered adequate and higher than other business alternatives (Shepherd, 2007). In the context of saba banana farming in Seruyan Regency, adequate rewards will encourage farmers to increase their production both by extension through the expansion of crop areas that are still very possible, as well as intensification through technical improvements to better cultivation to ensure increased productivity of their farming. Various factors play a role in this condition, both factors that are under the control of farmers as producers (internal factors) and factors that are beyond the control of farmers (external factors) (Ciaza, 2016; Tregear & Cooper,2016). On the other hand, the performance in farming (on-farm) and off-farm performance also determine the level of excitement of the business. In order to increase business passion, a thorough review of the banana agribusiness system in Seruyan Regency needs to be conducted.

**The Obyectives**

This research aims to obtain alternative strategies to increase production through:

1. Analysis of the situation of internal and external factors of saba banana business system in Seruyan Regency;
2. Evaluation of internal and external factors to determine the direction and priority of development strategies; and
3. Alternative solutions for structuring the saba banana agribusiness system in Seruyan Regency.

The results of this study can be a consideration in increasing the business passion of banana farmers and in turn will increase the production of saba banana for the region concerned.

**MATERIALS AND METHODS**

This research was conducted at the center of saba banana production on Seruyan Regency, Central Kalimantan Province. The necessary data and information are obtained by collecting information from relevant publications and agency reports for secondary data purposes, while primary data is obtained through direct interviews with traders and selected banana farmers as respondents by using questionnaire tools. Determination of respondent farmers is done randomly (multi-stage random sampling) where the first stage is to choose three groups of banana farmers randomly, then from each selected group, 6 farmers randomly were randomly selected as respondents. The determination of trader samples is done by snowball sampling from the results of interviews with respondent farmers.

Analysis of the business environment situation is conducted on external and internal factors (Oluwakemi et. Al, 2013). External factors evaluated include various aspects, namely: physical (geo-spatial), technical, economic, social, legal, and market environment. The internal factors studied include the performance of farmers and farmer groups in on-farm and off-farm activities that include aspects: production, financing, marketing, group dynamics, and group activity. The assessment is conducted using the interval scale -2, -1, 0, 1, 2 with the following criteria in Table 2.

SWOT analysis is done by applying proportional weight to the factors and aspects evaluated. The score after weighting will be mapped to be a reference in developing an alternative strategy for structuring the saba banana agribusiness system in Seruyan Regency.

Alternative agribusiness system structuring strategy is focused on the level of producer farmers with reference to SWOT results. The steps of system setup are directed to improve efficiency by considering the possibility of integration between levels by considering the concept of integrated supply chain management (Institute of Management Accountant, 1999).

**ResultS and Discussion**

In general, the saba banana agribusiness system in Seruyan regency still needs improvement if it wants to encourage this district to become one of the centers of banana production outside Java. In comparison to Philippines banana farm business whereas average farm size around 50 hectares, applying advance production technology and properly ordered marketing system (Bacon, 2020), farm size in this area is very small (less than 2 hectares), cultivation technology and market structure need to be improved.

Economic lethargy due to the pandemic covid (corona virus disease) 19 does not have a big impact on the development of this commodity because it is compensated especially with the support of local governments through related agencies, so development opportunities are still there even though small. On the other hand, fundamental weaknesses, especially from farmers and their groups, need to be addressed.

***External Factor Situation Analysis***

External situations provide an overview of the expectations of opportunities although very small. An average external factor score of just 0.05 gives an idea that external factors do not open up opportunities or become threats. In summary, the situation of external factors can be seen in Figure 1.

The physical aspect gives an overview of opportunities for the development of this commodity with an average score of 0.91. Land suitability and especially land availability become a great opportunity for the development of banana. The popularity of the region as a center of banana production is also supportive for development. In addition, the ease of accessibility of the location with the local market center is also a significant opportunity. The magnitude of this opportunity is able to cover the threat that occurs due to poor transportation infrastructure, especially at the level of farming (Oluwakemi et.al., 2013).

Serious threats occur in the technical aspect (average score -1.15). The development of marketing networks and banana-based processing industries that have not happened at all is the main threat from this aspect. Technical production applied by farmers still needs to be improved, as well as the technical harvest and post-harvest applied. Information on cultivation and post-harvest technology is still not fully available and this condition is very concerning when compared to the similar business conditions in the Philippines (Hindersah & Suminar, 2019; Fatmawati & Dianawati, 2019; Tukan and Budidarsono, 2015).

The economic aspect is also still a threat (average score -0.64). Regional economic growth that is still negative due to weakening economic activity due to the Covid 19 pandemic is the main reason for the threat in this aspect. This situation is expected to take place temporally (with time) and turn into an opportunity if the Covid 19 problem is addressed. This is quite reasonable considering the uptake of banana needs and banana-based industrial products are relatively stable, and the consumption rate of banana-based industrial products tends to increase.

The condition of social aspects is very conducive and provides meaningful opportunities for the development of saba banana business (average score of 1.17). People are very familiar with this commodity business and banana business has an important position in the social life of the people of the region concerned. Monoculture commodity cultivation has grown rapidly, although banana crops in the backyard and around the residence are still carried out in limited quantities.

On the legal aspect, its contribution to business development opportunities is still not widely seen (average score of 0.07). Support and instrumen rules that encourage the development of banana commodity business has been given by the local government although its nature is uncontinuously, which is all a driving factor for farmers to develop this saba banana commodity business (Reginawati & Suminar, 2019). However, this support was not accompanied by information and guidance in access to financial sources and more importantly, market information assistance was never done. Limited market access information is a major threat to the development of this banana commodity.

Some aspect of the market are a threat to be considered (average score -1.12). Although the level of market saturation is still not happening and price transmission is quite attractive for business development, the monopsonistic market structure makes the bargaining position of farmers very low. Pricing is almost entirely in the hands of traders (Fatmawati & Dianawati, 2015). On the other hand, very high price differences at the producer and end consumer levels are another cause that hinders business development and are also indicative of the inefficiency of this commodity's chain of trading.

***Internal Factor Situation Analysis***

Individually the performance shown by farmers is not a weakness although it does not fall into the category of strength. This individual performance is not enough to provide adequate results for his business. Efforts to join the farmer group to benefit more from this commodity business has not been running in line with expectations so in general it can be said that the situation of internal factors is in a weak position, mainly due to the performance of the group that has not been running (average score -0.52). The situation of internal factors can be seen in Figure 2.

The performance of farmers individually in the production aspect shows no weakness. The average score for the production aspect of 0.1 means that the technical application of production by farmers has headed in a better direction. The majority of farmers do this commodity business monoculture in one stretch of land either through the disc system or *surjan* system (paired rows) with a relatively uniform planting distance (3x3 m2). Unfortunately, seedlings are varied and do not come from seed halls so the productivity of the results is questionable.

Treatment on plantation has not fully gone well because fertilization is not yet based on recommendations but based on the willingness of farmers to set aside funds for fertilization of crops. Pruning old leaves is routinely done but not accompanied by the regulation of the number of sapleds per clump so that the density of banana stands per clump is not controlled and in turn will affect the results of banana bunches obtained. In fact, setting the number of sapleds with different ages with a maximum of five banana stands per clump is one way to schedule production so that the production rate per unit of time is more stable. Pre-harvest treatment and determination when harvesting is done by farmers themselves, as well as harvesting. Post-harvest treatment is done by farmers by decompositioning of banana bunches into banana comb.

Product selling are calculated by unit weight regardless of the size of the resulting banana. Farmers can sell at the gate of their farm which means the village traders come to the farmer, or it can also bring their crops to the local village traders. The pricing per kg of bananas is entirely determined by the trader. This condition occurs due to the monopsonistic market structure and the access that farmers have to market needs and price levels are very limited. As a result, the bargaining position of farmers in pricing can be said to be none at all (Bailey et.al., 2008; Mau, 2002).

Aspects of financing farmers is one of the weaknesses in the management of banana farming (average score -0.39). Assistance from the local government was once received but only at the beginning of the development of monoculture banana farming in construction of banana field. After that, further assistance is not yet available. The need for funds for business development mostly comes from the farmers themselves and some farmers have been able to access the source of business credit funds from financial or banking institutions (Directorate General of Food Crops Ministry of Agriculture, 2015). However, the need for additional funds for banana farming can also come from individuals in this case village traders and this of course results in weakening the bargaining position of farmers in selling their crops.

The marketing aspect or sales results show weak positions with an average score of -0.29. Farmers' activities ahead of harvest tend to be passive in finding buyers. Post-harvest treatment applied only decomposition of banana bunches without being followed by sorting and grouping by size (grading). Sales are done by waiting for traders to come and very rarely farmers bring their own products to buyers or village markets. Although almost all products are sold, more pricing is done by village traders who are easily found during harvest. The level of price received has not been satisfactory, but farmers can not do much because it depends heavily on the existence of village traders for the continuity of their business (Directorate General of Food Crops Ministry of Agriculture, 2015; Mau, 2002).

The condition of the farmer group that houses the farmers' banana business has not been in line with expectations. The position of the dynamics of the group is still weak with an average score of -0.71. The existence of farmer groups is limited to the formation of the structure of farmer groups organizations only. The task description for each group administrator does not yet exist and group meetings are very rare. The group's activity plan is also unclear. In group meetings that have been held, the participation of group members is also relatively low. At the time of this research, the dynamics of banana farming groups could be said to have stalled.

Group activity is not at all none. This situation is a major weakness in the development of banana farming in the region (average score -1.61). The provision of technical information on cultivation, harvest and post-harvest was once done by the group but it happened at the time of the beginning of the group's formation. Information on market needs and product prices has not been done by the group but rather this information is received through village traders. There is no group effort to actively looking for market opportunities and serving the supply of member products, let alone having a special personal in the field of results marketing. Meanwhile, coordination with similar farmer groups was also halted.

***The SWOT Analysis***

SWOT analysis is conducted based on the situation of external and internal factors by giving proportional weight to the aspects studied along with the supporting components of those aspects. SWOT analysis results are presented in Table 3 and Figure 3. The weighted score for external factors is very small, but indicates that development opportunities can still be expected. The weighted score for internal factors i.e. -0.52 means that there is still a need for improvement in the business capabilities of farmers, both individually and especially in groups. Mapping the weighted score indicates that the priority of improvement needs to take precedence over the improvement of the performance of internal factors selectively with the heavy point in the farmer group (Mau, 2002; Rahayu & Navastara, 2012). Meanwhile, interventions on external factors are also carried out selectively, especially in components that pose a threat, especially in the technical aspects.

***Alternative Strategy to Accelerate Saba Banana Business Development***

SWOT analysis shows that banana farming is in a weak position with little chance of developing. A realistic alternative strategy is an effort to ally existing weaknesses by improving the component aspects of the cause of weakness (Oluwakemi et.al., 2012). At the same time also apply efforts to increase opportunities, especially in aspects that are still in a low position.

Elimination of weaknesses. Conducted on farmers both individual and especially in groups. Individually, the improvement of the technical application of cultivation needs to be done with the main priority on the technique of managing the population per banana clump (maximum 4 different trees of age) through the slaying carried out every 3 months, fertilization is done 2x a year at the appropriate dose of recommendations and treatment is routinely carried out every month. The uniformity of the seeds used is very decisive, so it is necessary to use seedlings from seedlings from bananas that produce well.

As a group, there is no other option but to revitalize the group. Revitalization of the group is carried out through the following steps:

1. Improving the organizational structure of the group with the addition of 1 dedicated manager in charge of marketing;
2. Directing group activities through the preparation of work plans and the implementation of the plan clearly and consistently;
3. Equating the vision of farmers and village traders on the urgency of banana business for all parties;
4. Improving the ability of group managers to technically cultivate bananas;
5. Improving management's ability to access financial resources;
6. Integrating vertically at the village level by embracing village traders as group managers in charge of marketer, with additional tips when needed;
7. Providing harvest readiness information of group members (time, quantity, and location);
8. Providing market needs information (location, quantity, price); and
9. Coordinating with similar groups and in the medium term integrating horizontally at the producer level.

Increase the opportunities. Can be done by the system coordinator (local government) with the treatment of aspects components that can be controlled. Technical, market, and legal aspects may be upgraded to higher opportunities by anticipation actions as follow:

1. Dissemination of information on technical improvement of cultivation, including information on breeding plants;
2. Provision of superior seedlings from the nursery garden;
3. Issuance of rules for the ease of banana business, especially in the field of marketing;
4. Issuance of ease rules for access to business development funds; and
5. Encouragement of local banana-based industrial development;

**Conclusion**

1. The decrease in the passion of banana business in Seruyan district production center is more due to weak internal factors in addition to external factors that only have low chances.
2. Weaknesses that occur in individual farmers can be improved by the technical application of more disciplined cultivation. The weakness of farmers in groups is addressed by revitalizing farmer groups with technical and marketing activities proportionally;
3. Vertical integration at the farmer level needs to be done by embracing village traders into group managers with special tasks in the field of marketing. Further horizontal integration of producer-level can be done through coordination and merger of similar groups;
4. Increasing opportunities can be done by providing information on the technical development of cultivation, issuance of local regulations for ease of business, as well as encouragement for the growth of banana-based industries at the local level.

**Recommendation**

1. Technical guidance from the relevant agencies needs to be provided in a planned and sustained;
2. Socialization of the equalization of the vision of the urgency of banana business for farmers and village traders needs to be done again by the local government through related institutions; and
3. Monitoring and evaluation of developments needs to be done periodically.

**References**

1. **Aguilar, Edna A. & Gabertan, Hermingida A., 2017**. ***Promoting Good Agricultural Practices (GAP) to Enhance Competitiveness, Resilience and Sustainability of Smallhold Saba/Cardaba Banana Growers***. J. ISSAAS Vol. 23, No. 2:227-235
2. **Bacon, David, 2020**. ***Philippine Banana Farmers:*** *Their Cooperatives and Struggle for Land Reform and Sustainable Agriculture.* Food First / Institute for Food and Development Policy 398 60th Street, Oakland, CA 94618-1212 USA. Issue Brief Number 13: Spring 2020.
3. **Reginawanti Hindersah & Erni Suminar, 2019**. ***Kendala dan Metode Budidaya Pisang di Beberapa Kebun Petani Jawa Barat***. AGROLOGIA: Vol 8, No 2, Oktober 2019, halaman 55-62
4. **Fatmawati & Henny Dianawati**, **2015**. ***Analisis Efisiensi Usahatani Pisang dan Strategi Pengembangannya di Kabupeten Sumenep.*** CEMARA, vol 12 no 1 nopember 2015.
5. **Oluwakemi, Adeola Obayelu et. al, 2013**. ***Rural – Urban Price Transmission and Market Integration of Selected Horticultural Crops ini Oyo State, Nigeria***. Journal of Agricultural Sciences Vol. 58, No. 3, 2013 Pages 195-207, Nigeria.
6. **F. Bailey Norwood and Jayson L. Lusk, 2008**. ***Agricultural Marketing and Price Analysis.*** Pearson Education, Inc., Upper Saddle River, New Jersey.
7. **Institute of Management Accountant, 1999. *Tools and Techniques for Implementing Integrated Supply Chain Management***. Institute of Management Accountants 10 Paragon Drive Montvale, New Jersey.
8. **C.M. Tukan** *et.al*. ***Banana Market Chain Improvement – Enhance Farmers’ Market Linkages in West Java, Indonesia.*** World Agroforestry Centre, ICRAF Southeast Asia Regional Office, Bogor, Indonesia.
9. M. Mau, 2002. ***Supply Chain Management in Agriculture - Including Economics Aspects like Responsibility and Transparency***. Paper prepared for presentation at the X th EAAE Congress ‘Exploring Diversity in the European Agri-Food System’, Zaragoza (Spain), 28-31 August 2002
10. **Andrew W. Shepherd**, **2007**. ***Approaches to linking producers to markets***. FAO, Rome.
11. **G.I. Johnson and P.J. Hofman, ed., 2004.** Agriproduct Supply-Chain Management in Developing Countries. Proceedings of a workshop held in Bali, Indonesia, 19–22 August 2003. Australian Centre for International Agricultural Research, Canberra, p. 44 - 52
12. **I.M. Crawford, 1997**. ***Agricultural and Food Marketing Management***. FAO. Rome

Table 1. Kalimantan Banana Production 2015 – 2019 (tons)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Pripinsi (Province) | Tahun (Year) | | | | | Growth |
| 2015 | 2016 | 2017 | 2018 | 2019 |
| Kalimantan Barat | 144735 | 72848 | 59776 | 46462 | 46979 | -27.00% |
|  | *1.98%* | *1.04%* | *0.83%* | *0.64%* | *0.65%* |  |
| Kalimantan Tengah | 27163 | 41794 | 38585 | 26163 | 26679 | -5.04% |
|  | *0.37%* | *0.60%* | *0.54%* | *0.36%* | *0.37%* |  |
| Kalimantan Selatan | 79493 | 81607 | 79366 | 81406 | 62813 | -4.73% |
|  | *1.09%* | *1.16%* | *1.11%* | *1.12%* | *0.86%* |  |
| Kalimantan Timur | 72144 | 79343 | 102598 | 98268 | 103888 | 9.43% |
|  | *0.99%* | *1.13%* | *1.43%* | *1.35%* | *1.43%* |  |
| Kalimantan Utara | 12129 | 19947 | 12875 | 26465 | 27095 | 18.90% |
|  | *0.17%* | *0.28%* | *0.18%* | *0.36%* | *0.37%* |  |
| Kalimantan | *335664* | *295539* | *293200* | *278764* | *267454* | -5.13% |
|  | *4.60%* | *4.22%* | *4.09%* | *3.84%* | *3.67%* |  |
|  |  |  |  |  |  |  |
| Indonesia | 7299266 | 7007117 | 7162678 | 7264379 | 7280658 | 0.31% |
|  | *100.00%* | *100.00%* | *100.00%* | *100.00%* | *100.00%* |  |
| Source : Biro Pusat Statistik dan Direktorat Jenderal Hortikultura (complied and recalculated) | | | | | | |

Tabel 2. SWOT criteria

|  |  |  |
| --- | --- | --- |
| Score | External Factors | Internal Factors |
| -2 | Seriuos Threat | Very Weak |
| -1 | Moderate Threat | Weak |
| 0 | Neutral | Neutral |
| 1 | Moderate Opportunity | Strong |
| 2 | High Opportunity | Very Strong |

Figure 1. External Factor Situation Analysis

Figure 2. Internal Factor Situation Analysis

Table 3. SWOT analysis of saba banana business in Seruyan Regency

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Eksternal factors | |  |  |  |
| No | Atributes - Aspect | Score (S) | Wwieght (W) | S x W |
| A | Physic (Geo-spasial) | 0.91 | 0.17 | 0.15 |
| B | Technic | -1.15 | 0.17 | -0.19 |
| C | Economic | -0.64 | 0.17 | -0.07 |
| D | Social | 1.17 | 0.17 | 0.19 |
| E | Legal | 0.07 | 0.17 | 0.01 |
| F | Market | -0.12 | 0.17 | -0.02 |
|  | Average score of External factors\* | 0.05 |  |  |
|  | **Wieghted score of External Factors** |  | **1,00** | **0,08** |
| Internal factors | |  |  |  |
| No | Atribute - Aspect | Score (S) | Wwieght (W) | S x W |
| A. | On Farm : Production | 0.10 | 0.20 | 0,02 |
| B | On farm : Financing | -0.39 | 0.20 | -0.08 |
| C | Marketing | -0.29 | 0.20 | 0.00 |
| D | On Group : Dynamics | -0,7111 | 0.20 | -0.14 |
| E | On Group : Activities | -1,6111 | 0.20 | -0.32 |
|  | Average score of Internal factors\* | -0.42 |  |  |
|  | **Wieghted score of Internal Factors** |  | **1.00** | **-0.52** |

Opportunity

Strong

Threat

Weak

Figure 3. SWOT mapping of banana business in Seruyan Regency

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | 2 |  |  |
|  |  | 1  Posiion of Saba banana business |  |  |
| -2 | -1 | 0 | 1 | 2 |
|  |  | -1 |  |  |
|  |  |  |  |  |