Prospective Analysis of Strategy for Developing Local Salak Production in Bilaporah Village, Madura Island

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Abstract

Bilaporah village is one of the largest local salak production areas in Bangkalan Regency, Madura, with a high productivity of 0.33 quintals per plant per year. However, these conditions are not matched by the quality of fruit produced and marketed. One of the quality problems of local salak fruit in Bilaporah is the less sweet taste of the fruit. The fruit quality such as taste in salak is strongly influenced by the cultivation practices applied by farmers. The cultivation practices in the local salak farms in Bilaporah have been analyzed to determine the sustainability of the local salak farms. The purpose of this study was to develop a strategic direction in the context of developing local salak production areas based on prospective analysis. Based on the results of the analysis, the improvement of the sustainability status of the local salak farms in Bilaporah through improving the quality of human resources is good for the main actors, namely farmers and government agencies, especially the Department of Agriculture of Bangkalan Regency.

Keywords: Bilaporah village, Local salak, Prospective analysis, Sustainability

INTRODUCTION

One source of the Indonesian economic sector in agriculture is horticulture, especially fruit trees. Various types of fruit plants thrive in Indonesia. Biophysical conditions that are suitable for plant growth are a factor in the development of fruit production centers, including salak. Salak is one of the suitable plants developed in Indonesia. The government has determined salak as the national flagship fruit, this is because salak does not require complex special care. In addition, there are few pest attacks, and the age is relatively long so that it can provide results in the long term (Kuncara, 2001).

Salak production centers in East Java, one of them on Madura Island, Bangkalan Regency. Bangkalan is one area that has great potential in the development of the agricultural sector, especially salak. Bangkalan local salak has its own distinctiveness compared to other types of salak from other regions, which have more water content, so that when consumed it feels fresher (Nurhayati, 2008 *in* Ariestin *et al.,* 2014).

In the cultivation of salak there is definitely an attack by plant pests, this also occurs in local salak plants in Bangkalan. Based on Puspasari's research (2016), pests attack salak plants in almost all parts of the plant, namely the leaves, flowers, fruits, and midribs. Termite *Coptotermes curvignathus* Holmgren (Isoptera: Rhinotermitidae) is a dominant pest with a high degree of damage. Pest attacks on salak plants will cause loss in quality and quantity and affect salak farming.

The biggest local salak production area in Bangkalan Regency is in Bilaporah Village, Socah District with high productivity. Based on productivity data of salak in Bangkalan (2016), it was stated that the salak productivity was 0.33 quintals per tree per year. This shows that local salak has promising prospects for cultivation and marketing. However, these conditions are not matched by the quality of fruit produced and marketed. One of the quality problems of local salak fruit in Bilaporah is the less sweet taste of the fruit and the prominent astringent taste. This causes consumer interest to decrease further so that a lot of salak are decaying because they are stored too long and farmers suffer losses. The fruit quality such as taste in salak is strongly influenced by the cultivation practices applied by farmers. Therefore, cultivating practices of local salak in Bilaporah have been analyzed to determine the sustainability of local salak farms (Afandhi, *et al.,* 2018).

In order to develop local salak production areas, the strategy direction to be developed in this study was formulated based on prospective analysis. Hardjomidjojo (2002), prospective analysis

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is used to predict possibilities that will occur in the future. The usefulness of prospective analysis is to prepare strategic actions that need to be carried out and see if changes are needed in the future.

RESEARCH METHOD

The research was conducted in the largest salak production area in Bangkalan Regency, Madura, namely Bilaporah village. This research is a kind of qualitative descriptive research to describe the important factors that influence the sustainability of local salak farms. The analytical method uses participatory prospective analysis to compile appropriate recommendations for the development of local salak production areas in Bilaporah.

Assessment of important factors by considering the direct impact of leverage factors on other factors. Determination of important factors using add on Microsoft Excel software so as to produce a level of influence and dependence between factors in the system. Inputs from prospective analysis are sensitive attributes or key factors to the sustainability of each dimension obtained from the leverage analysis that has been carried out in previous studies (Afandhi *et al.,* 2018). According to Bourgeois and Jesus (2004), the analysis results of various factors or variables indicate the factors that are in (1) quadrant I (input) contain the most powerful important factors or driving variables in the system because they have a strong influence on low dependence, (2) quadrant II (stakes) contains a strong variable factor because it has strong influence and dependence (leverage variables), (3) quadrant III (output) contains small influential factors with high dependency, and (4) quadrant IV (unused) contains factors that have little influence and dependence. In this study the factors in quadrant I were used as part of the reference to formulate appropriate recommendations for the development of local salak production areas in Bangkalan, especially Bilaporah Village.

RESULT AND DISCUSSION

Based on the leverage results, attributes or key factors that influence the sustainability of the local salak farms in Bilaporah, among others: 1) productivity per plant; 2) overflow duration; 3) temperature; 4) soil pH; 5) the number of plants owned by farmers; 6) the availability of water; 7) inorganic fertilization efforts; 8) use of pesticides; 9) use of seeds; 10) guidelines for cultivation technology; 11) the percentage of termite attacks; 12) the percentage of mammalian pest attacks (rat, squirrel, and weasel); 13) the percentage of fruit fly attacks (*Drosophila sp*.); 14) the percentage of caterpillar attack on leaves (*Hidari sp*.); 15) the percentage of fruit-eating beetle (*O. miniatocrinitus*); 16) the percentage of beetle attack on flowers (*O. serrirostris*); 17) storage techniques; 18) farmers' understanding of post-harvest pest; 19) farm distance; 20) how to sell fruit; 21) harvesting techniques; 22) the size of the fruit according to consumer interest; 23) freshness of fruit; 23) fruit safety for consumption; 25) fruit maturity; and 26) sweetness. The level of importance of the factors that influence the sustainability system of local salak in Bilaporah based on prospective analysis is presented in Figure 1.

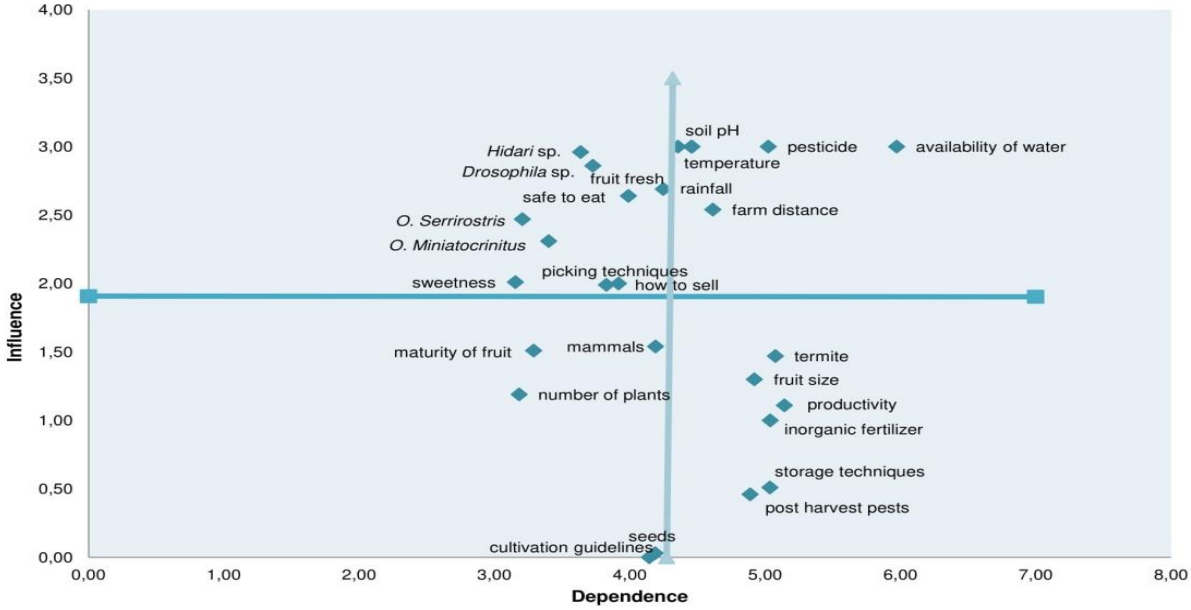

Figure 1. Importance of Influential Factors in the Local Salak Farms Sustainability System at Bilaporah

Based on prospective analysis obtained nine attributes or important factors that influence the sustainability of the local salak farms in Bilaporah, namely 1) the percentage of fruit fly attacks (*Drosophila sp*.); 2) the percentage of caterpillar attack on leaves (*Hidari sp*.); 3) the percentage of fruit-eating beetle (*O. miniatocrinitus*); 4) the percentage of beetle attack on flowers (*O. serrirostris*); 5) picking techniques; 6) how to sell; 7) sweet taste of salak lokal; 8) fruit safety for consumption; 9) freshness of fruit.

The recommendation direction for developing local salak production areas is formulated based on nine important factors that have been identified with prospective analysis. Nine important factors are in quadrant I, which is a determinant or multiplier effect factor if intervened both in the form of regulatory actions and improvements (Ramadhan, 2015). The factors in this quadrant are factors groups that need improvement in order to achieve an increase in the sustainability status of the local salak farms in Bilaporah. Of the nine important factors, the quality factor of local salak taste has an important influence on the sustainability of horticultural products, especially local salak fruit.

The sweet taste of salak is strongly influenced by the cultivation process, especially organic fertilization and harvesting age which is in accordance with the optimal maturity level. Salak fruit contains tannin compounds that cause a distinctive taste in salak fruit, which is astringent taste. the more mature of salak fruit causes the tannin level lower. In fact, most farmers harvest the fruit at the age of the fruit less than 6 months after the flower blooms. Sabari (1986) *in* Setiasih (1999) optimal maturity in salak fruit is when the fruit is 6 months old after the flower blooms. Salak is harvested with a maturity level that lacks a prominent astringent taste. At the optimum level of maturity, tannin compounds decrease so that the sugar compounds in salak will stand out by emitting a distinctive aroma.

In addition, the local salak farms in Bilaporah has not been fertilized at all, both organic and inorganic fertilizers. Only a few farmers do organic fertilization from cow or goat manure. Based on the study of Islamy (2010) proving that salak pondoh farms have organic content from goat manure, elements of potassium, sodium, manganese and iron micro elements are higher compared to the local salak farms of Sumedang. Therefore, to improve the taste quality of local salak fruit in Bilaporah, it is necessary to add nutrients to the soil by organic fertilization.

Overall, improvement of the sustainability status of local salak in Bilaporah through improving the quality of human resources for the main actors, namely farmers related to the cultivation process of salak plants, especially plant rejuvenation or new crop replacement, fertilization, fruit thinning, and harvesting techniques that are in accordance with optimal maturity.

The low level of knowledge, motivation and mentality of Bilaporah farmers causes the sustainability status of the local salak farms to be low. Bilaporah farmers are only short-term oriented, like pursuing temporary profit. The low knowledge and skills of farmers are related to low education. Besides that, the regional government also lacks attention to farmers in Bilaporah especially for those who work in the same area and the center in developing salak production areas. The local salak area in Bilaporah has the potential to become an agrotourism area if viewed from the Bangkalan location which is close to Surabaya which is a potential market segment area.

The importance of improving the quality of human resources is the awareness of the importance of paying attention to the practice of local salak cultivation both for the main actors, namely farmers and government agencies, especially the the Department of Agriculture of Bangkalan Regency, and also agricultural counseling to improve the knowledge, skills and motivation of local salak farmers in Bilaporah to improve the sustainability status of local salak farms regarding the fruit taste quality.

CONCLUTION

Based on a prospective analysis for the direction of recommendations for the development of local salak production areas in Bilaporah, sensitive factors were obtained that needed improvement to improve sustainability status. Improvement of the sustainability status of local salak in Bilaporah through improving the quality of human resources for the main actors, namely farmers related to the cultivation process of salak plants, especially plant rejuvenation or new crop replacement, fertilization, fruit thinning, and harvesting techniques that are in accordance with optimal maturity. In addition, there is a need for cooperation between farmers and government agencies, especially the Department of Agriculture of Bangkalan Regency, to develop local salak production areas.

ACKNOWLEDGEMENTS

We would like to thanks to the Department of Agriculture of Bangkalan Regency, head of Bilaporah village, and community of salak farmers

in Bilaporah village for cooperation and support in this research activity.

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