ICEBIT
The 5th International Conference On Economics , Business and Information Technology
E-ISSN 3025-4892
August 24, 2024 pp. xx-xx

RISK MITIGATION STRATEGY FOR RICE LAND FARMING

Muhammad Firdaus
Lecturer of Faculty of Economics and Business, Institut Teknologi dan Sains Mandala
firdaus@itsm.ac.id
+6281331576126

Mazuri Abd Ghani.
senior lecturer of School of Management Sciences, Sultan Zainal Abidin University

Angga ade permana
Lecturer of Faculty of Economics and Business, Institut Teknologi dan Sains Mandala
angga@itsm.ac.id
+6281252554205

ABSTRACT

Farming is one of the factors that can increase farmers' income and standard of living. As a business, agriculture always faces risks. The existence of risks must be minimized. This study aims to determine the factors that influence the success of farmers in farming. The study was conducted using a literature study method using journal articles that discuss farming or agribusiness. The results of the study showed that the success of farming is determined by at least 5 (five) factors, namely: 1) using original seeds/seedlings (F1 hybrids) and varieties that consumers like. 2) Plant maintenance is carried out carefully, using the right pesticides, and eliminating sources of disease in the field. 3) Capital needs must be calculated and financing must be allocated carefully. 4) Using selected, honest, hard-working, and trustworthy workers and creating a conducive working atmosphere. 5) The selection of plant types must be market-oriented. In addition, mitigation efforts are made to reduce the impact of risk, through 1) Crop diversification. 2) Diversification of livelihoods. 3) Agricultural insurance.

Keywords : Strategy, Mitigation, Risk, Farming

1. INTRODUCTION

Jember Regency is an agricultural area. Most of the population in Jember Regency work in agriculture and the Jember Regency Government through the Food Crops, Horticulture, and Plantation Service of Jember Regency is committed to continuing to advance the agricultural sector in order to improve the standard of living of its people. Jember is known as the "rice barn" of East Java Province and the center of tobacco plants. Other supporting sectors such as horticulture and seasonal fruits also contribute to the progress of agricultural development in Jember Regency. According to Firdaus and Suherman (2019), horticultural crops and seasonal fruits that are commonly grown in rice fields include Melon, Watermelon, Chili (large/small), Cabbage, Long Beans, Cucumber, Eggplant, and Tomato. In terms of the availability of Natural Resources and Human Resources, Jember Regency has great potential for the implementation of agricultural development programs, however, in line with the increasing population growth rate, the efficiency and effectiveness of the use and utilization of natural resources need to be continuously improved while maintaining and paying attention to their sustainability and sustainability.

Agricultural development is aimed at increasing the income of farming communities. This can be achieved by increasing production (Hanafie, 2010). Production problems related to the nature of farming that always depends on nature are supported by risk factors that cause high opportunities for production failure, thus accumulating in the risk of low income received by farmers. The risk of results or production arises, among others, due to pest attacks, weather or natural conditions, problematic water supply, and variations in inputs used. Meanwhile, price risk is usually associated with the diversity and uncertainty of prices received by farmers that must be paid for production inputs.

This study aims to determine the factors that influence the success of farmers in farming. This research is expected to be useful for related parties, namely farmers and the Food Crops, Horticulture and Plantation Service of Jember Regency in an effort to develop a strong, superior horticultural and seasonal fruit agribusiness in accordance with regional potential, and can be used as a reference for further research, especially those related to the development of horticultural and seasonal fruit agribusiness.

2. RESEARCH METHOD

This research is a literature study. The research design used in this study is a systematic review, which aims to make it easier to identify questions in conducting research (research questions) to get conclusions from synthesizing the results of previous studies. The sources of information and data from this study are related journals that discuss farming or entrepreneurial activities in the field of agribusiness or agribusiness entrepreneurs that have been carried out by individuals or groups who have succeeded in carrying out farming activities.

3. RESULTS AND DISCUSSION

Successful Agribusiness Strategy

According to Suratiyah (2015), farming science is a science that studies how farmers determine, organize, and coordinate the use of production factors as effectively and efficiently as possible so that the business provides maximum income so that the business provides maximum income. Farming is usually interpreted as a science that studies how someone allocates existing resources effectively and efficiently for the purpose of obtaining high profits at a certain time (Soekartawi, 2002).

Farming is a human business activity to cultivate their land with the intention of obtaining crops or animals without reducing the ability of the land in question to obtain further yields. Farming must be carried out carefully and always be vigilant. Although based on the analysis of farming the prospects are good, if there are cultivation activities that are delayed (late spraying for example), then the profits that have been imagined will disappear. Likewise with the market problem. The increasingly open market causes competition to become tighter. Therefore, special aspects are needed that must be carried out to succeed in agribusiness.

4. RESULTS AND DISCUSSION

Successful Agribusiness Strategy

According to Suratiyah (2015), farming science is a science that studies how farmers determine, organize, and coordinate the use of production factors as effectively and efficiently as possible so that the business provides maximum income so that the business provides maximum income. Farming is usually interpreted as a science that studies how someone allocates existing resources effectively and efficiently for the purpose of obtaining high profits at a certain time (Soekartawi, 2002).

Farming is a human business activity to cultivate their land with the intention of obtaining crops or animals without reducing the ability of the land in question to obtain further yields. Farming must be carried out carefully and always be vigilant. Although based on the analysis of farming the prospects are good, if there are cultivation activities that are delayed (late spraying for example), then the profits that have been imagined will disappear. Likewise with the market problem. The increasingly open market causes competition to become tighter. Therefore, special aspects are needed that must be carried out to succeed in agribusiness.

Here are some aspects (preventive strategies) carried out by farmers to handle and reduce the risk of farming in order to be successful in agribusiness:

1. Seeds/Seedlings and Varieties
    a. Use superior seeds. Seeds are the first step to successful farming. Farmers must always use original seeds (F1 hybrids) because if they plant derivative seeds, the potential yields obtained will not be uniform and will certainly be greatly reduced. In fact, it can decrease by ± 30%, even though the total costs incurred are only related to the difference in seed costs while the income is very different.
    b. Plant varieties that are preferred by consumers. Do not plant varieties that are not preferred by consumers.
2. Plant Maintenance
    a. Plant management must be carried out carefully so that cultivation does not stop or become chaotic in the middle of the road. Also, so that the quality of the fruit is maintained. Quality fruit will have a much higher selling value.
    b. Pesticides given to control pests and diseases must be appropriate. The use of pesticides must be in accordance with the recommended dosage and the right time, and should start from the lowest recommended dosage.
    c. Sources of disease in the field must always be eliminated. Plants that are seriously infected with disease must be destroyed immediately. Do not let the leaves, stems or parts of the infected plant fall on the land so that they will transmit the disease to healthy plants.
3. Financing.
    a. The need for farm capital must be calculated carefully. This is to avoid delays or cessation of agribusiness

activities in the middle of the road.

b. Financing items must be allocated carefully. Unnecessary items and non-technical financing should be eliminated.

c. Expenditures and receipts must be accounted for (from investors). All expenses must be accompanied by valid evidence to avoid the possibility of budget leaks. In other words, financial administration must be good and orderly.

4. Labor
   a. Labor (TK) must be selected. Choose workers who are disciplined, honest, hard-working, and trustworthy. It is better to pay one person more than to pay 2-3 people who are lazy, irresponsible and dishonest.
   b. Create a good working atmosphere so that the workforce will be more comfortable. Management should be open and incentives should be given if the agribusiness makes a profit. Although small, incentives will cause the workforce to have a high sense of ownership of the plants so that the quality of the harvest is good and productivity is high.

5. Marketing
   a. The selection of plant types must pay attention to the market. Plants that have good prospects (prices) are prioritized for planting.
   b. It is necessary to find a special market to increase the selling price. High-quality fruit is offered to supermarkets or fruit shops, in order to get a high selling price.

Mitigation

Farmers in controlling risk do not only use preventive strategies. Mitigation strategies are strategies that can be carried out to reduce the impact of a risk. Mitigation can be done to address sources of risk that have a major impact. Some mitigation actions that farmers can take through crop diversification and livelihood diversification, and Agricultural Insurance (Angela, 2019)

1. Crop diversification. Crop diversification refers to the practice of planting different types of crops on one farm. This can include mixed farming, crop rotation, or even crop and livestock integration. This concept is rooted in the simple principle that by having a variety of crops, farmers can reduce the risk of crop failure and vulnerability to certain pests and diseases. The benefits of crop diversification are:
   a. Risk Management and Soil Deficiencies. Crop diversification helps manage risk in farming. Different crops have different growing requirements, so if one crop fails due to factors such as extreme weather or pests, other crops may still grow well. This helps farmers protect their investment and maintain the productivity of their farmland.
   b. Increased Soil Fertility. Crop rotation, a form of crop diversification, can improve soil fertility. Different crops have different nutrient requirements, and some crops can increase the nutrient content of the soil for other crops. For example, legumes can increase the nitrogen content in the soil, providing a positive benefit to other crops that need that nutrient.
   c. Reduced Pesticide Use. By growing a variety of crops, farmers can reduce their reliance on pesticides. Monoculture, or growing one crop repeatedly in the same field, can lead to an increase in pests and diseases that are specific to that crop. Crop diversification helps balance the agricultural ecosystem, reducing the pressure on one crop and reducing the need for pesticides.
   d. Increased Income and Economic Diversification. Crop diversification not only benefits the farmland but can also increase farmers' incomes. Different crops can be sold in different markets, providing economic flexibility and reducing dependence on a single crop or market. This helps create economic sustainability for farmers and the farming community as a whole.

   Some strategies commonly used in the implementation of crop diversification in general.
   a. Crop Rotation. Crop rotation is the practice of planting different types of crops alternately on the same land. This helps improve soil fertility, reduces the risk of disease and pests, and gives the soil time to recover after harvest.
   b. Polyculture. Polyculture involves planting several types of crops simultaneously on the same land. This approach takes advantage of positive interactions between plants, such as protection from pests and plant diseases.
   c. Use of Superior Crop Varieties. Selecting different crop varieties with diverse growth and resistance characteristics can improve agricultural sustainability. These varieties can be designed to adapt to changing environmental conditions.
   d. Development of Local Crops. Supporting the development and planting of local crop varieties that adapt to local climate and soil conditions can improve food security and promote agricultural sustainability.

   Although diversification can improve the economic sustainability of farmers, it also carries certain market and financial risks. Fluctuations in commodity prices, changes in market demand, or external factors such as changes in government policies can affect the success of crop diversification. Therefore, farmers need to have a good risk management strategy to overcome this uncertainty.

2. Diversification of livelihoods. Livelihood diversification is an expansion of livelihoods or finding additional jobs other than farming to earn income other than from farming. Diversification is one strategy that farmers can do if production results are not as expected. In general, farmers look for other workers who do not require a lot of time such as construction workers and traders.
3. Agricultural Insurance, especially Rice Farming Insurance (AUTP) is one of the non-production solutions offered by the Government through the Ministry of Agriculture to mitigate the risk of crop failure related to weather or climate change such as drought, flooding, pests and plant diseases. The implementation of AUTP is expected to provide protection against the possibility of loss of income and capital to carry out the next rice farming business (Kaleka, et al., 2020).

The sources of risk most often faced by farmers are climate and weather as well as pest and disease attacks. Sample farmers said that uncertain weather and climate conditions caused an increase in pest attacks during the rainy season and drought during the dry season. To overcome this risk, the most common preventive strategy used by farmers is to carry out routine maintenance and control pests and diseases mechanically and chemically, in addition, farmers also use seeds with different varieties in the rainy season and dry season. Meanwhile, the mitigation strategies carried out by farmers in Jember Regency include crop diversification during the dry season, namely by planting corn in some of their rice fields that are experiencing drought and farmers also diversify their livelihoods by looking for work in other fields so that they can reduce the income risks faced by farmers.

5. CONCLUSION

Based on the discussion above, it can be concluded that the success of a farming business is determined by several factors, namely: 1) using original seeds/seedlings (F1 hybrids) and varieties that consumers like. 2) Plant maintenance is carried out carefully, using the right pesticides, and eliminating sources of disease in the field. 3) Capital needs must be calculated and financing must be allocated carefully. 4) Using selected, honest, hard-working, and trustworthy workers and creating a conducive working atmosphere. 5) The selection of plant types must be market-oriented. In addition, mitigation efforts are made to reduce the impact of risk, through 1) Crop diversification. 2) Diversification of livelihoods. 3) Agricultural insurance.

REFERENCES

Angela, Rika; Refdinal, M; Harlance, Rika. 2019. Analisis Perbandingan Risiko Usahatani Padi pada Musim Hujan dan Musim Kemarau di Nagari Mungo Kecamatan Luak Kabupaten Lima Puluh Kota. JOSETA: Journal of Socio Economic on Tropical Agriculture (Jurnal Sosial Ekonomi Pertanian Tropis). Vol. 1 No. 1: 36 – 44. http://joseta.faperta.unand.ac.id/index.php/joseta/article/view/7?phdjmohlfcbaaimo. Accessed June 21, 2024

Firdaus, Muhammad. 2017. *Manajemen Agribisnis*. Jakarta: Bumi Aksara.

Firdaus, Muhammad dan Suherman. 2019. Horticultural Farm Business Priorities in Jember. *East African Scholars Journal of Economics, Business and Management*. Volume 5 Issue 5: 252-255. https://www.google.com/search?q=Horticultural+Farm+ Business+Priorities+in+Jember. Accessed 26 March 2024.

Hanafie, R. 2010. Pengantar Pertanian. Yogyakarta: CV Andi Offeset.

Kaleka, Martin Umbu; Maulida, Elita; Taek, Egidius; Swastawan, I Putu Gede, dan Arisena, Gede Mekse Korri. 2020. Kajian Risiko Usahatani Padi di Indonesia. Agromix. Vol 11 No. 2. P 166 – 176. https://jurnal.yudharta.ac.id/v2/index.php/AGROMIX/article/view/1928/1607. Accessed June 21, 2024

Soekartawi. 2002. *Prinsip Dasar Manajemen Pemasaran Hasil-Hasil Pertanian Teori dan Aplikasinya*. Jakarta. PT Raja Grafindo Persada.

Suratiyah, Ken. 2015. *Ilmu Usahatani Edisi Revisi*. Jakarta: Penebar Swadaya.