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# Risk identification of Bali Cattle on traditional farming: A review

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**Abstract.** Beef cattle farming has great potential to be developed and has a strategic role as a provider of animal protein. Until now, the need for national beef is still far above domestic production, so the government has issued a cattle import policy, as an effort to meet the national demand for beef. The study aimed to identify the business risks that will arise in the traditional Balinese cattle breeding business. The results of the journal review show that the identification of risks that will arise in traditional Balinese cattle farming is production risk, market risk, human resource risk, technology risk, and environmental risk, so a strategy is needed to reduce and overcome these risks so as not to cause failure in Bali cattle farming business. Business risks cannot be avoided but can be minimized, so that the damage that will be caused is not so fatal.

## 1. Introduction

Demand for beef increases as the population increases. Live meat and cattle in Indonesia are currently unable to be supplied by local breeders, so that the demand for meat is met by imports [1]. The highest import volume for beef commodity was in December 2019, amounting to 24 145.07 tons, the population of beef cattle in 2019 was 17.1 million heads [2]. This provides a great opportunity for business development in the local beef cattle sector to increase business capacity. The cluster approach will improve maintenance management as well as improve the appearance of livestock, increase meat and carcasses to achieve market requirements specifications targeted to both stakeholders and consumers [3].

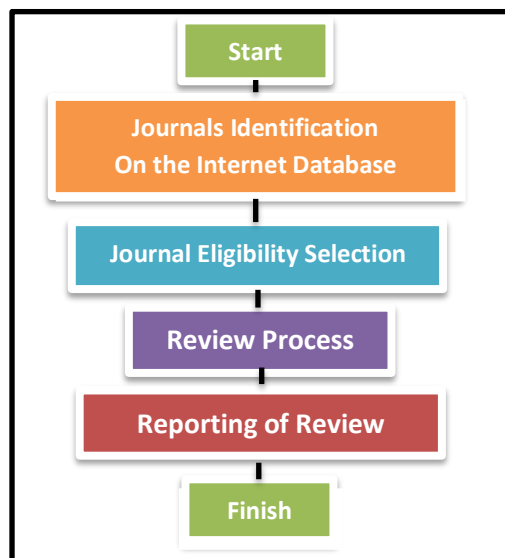
Demand for beef still follows the population growth in Indonesia, but domestic cattle production is not sufficient to meet people's needs for beef. The potential beef cattle to be developed in South Sulawesi are Bali Cows. Bali cattle have a very strategic and important role, as well as promising market opportunities [4]. Bali cattle have the advantage of high adaptability and fertility, so it is very potential to be developed as an effort to fulfill national beef. Beef cattle has become the best contributor to meeting the needs of meat protein [5]. Consuming animal food is important because it contains nutrients that are beneficial to the body [6].



Bali cattle farming in Indonesia tends to be operated on a small scale, although it is carried out massively in almost every remote area, the maintenance methods are still traditional. Farming business will always be faced with the problem of uncertainty, this is very closely related to the risks that may arise, including Bali cattle farming, so it is necessary to identify business risks so as not to cause major and fatal problems in the future. If the risks can be avoided and reduce the impact that will be caused, then it will get the maximum economic benefit for Bali cattle breeders. The purpose of this study is to identify the business risks that will arise in the traditional Balinese cattle breeding business.

## 2. Analysis

The research data comes from articles recorded in electronic databases, from several journal or article provider sites, such as Google Scholar, ScienceDirect, Mendeley, Researchgate, and the Google search engine. According to Wideasih *et al.*, (2015) that there are many techniques or methods that can be used to carry out risk identification stages, including interviews, brainstorming (depth interviews), questionnaires, assessments based on experience and existing documents, and observations of objects of observation [7]. Risk identification in this study is carried out based on existing documents, or research that has been done before. Furthermore, journals related to the research objectives will be analyzed carefully, in order to obtain information on the risk identification of traditional Balinese cattle farming. Then the results of the review will be reported with the description analysis method. The research stages will be described in Figure 1 below, to make it easier to collect and present research results.



**Figure 1.** Flow of activity literature review

## 3. Risk Identification of Bali Cattle on Traditional Farming

The journals search on a database based on keywords entered on a search engine showed 1050 articles that were displayed, however, articles were selected related to the research objectives, then journal articles were selected to produce several literature reviews as follows. One of the native Indonesian beef cattle, Bali Cows (*Bos Sondaicus*), has undergone a domestication process that occurred before 3,500 BC in the islands of Java or Bali and Lombok. The classification of cows into a cow breed is based on the same set of similar characteristics. On the basis of these characteristics, they can be distinguished from other livestock even though they are still in the same species. Bali cattle have a characteristic body coat color, namely red brick on females and adult males with blackish brown fur, white on the lower limbs, the back of the pelvis (buttocks), and the upper-lower lip [8]. The potential

of the Bali cattle business if developed professionally will be beneficial for increasing employment, contributing to national meat production, and increasing local revenue.

Bali cattle are a type of local Indonesian cattle originating from Bali which have now spread to almost all parts of Indonesia and even overseas such as Malaysia, the Philippines, and Australia [9]. Bali cattle have advantages compared to other cattle, including having a fast growth rate, good adaptation to the environment, and good reproductive performance. Bali cattle are the cattle that are mostly kept on small farms because of their good fertility and low mortality rate [10]. Other advantages are high fertility and excellent conception rate [11], high percentage of carcass, and quality meat with low fat content [12]. Meanwhile, beef cattle production still relies on people's farms, with a small scale of ownership of smallholder farms that are only able to supply household-scale beef, but have not been able to make a large contribution to national beef needs. There has not been an effective and efficient handling of business risks for the partnership of Balinese cattle breeders.

Beef cattle business in Indonesia still tends to be managed traditionally which is maintained with food crops [13]. About half of the population of cattle raisers are smallholder farms [14]. And most breeders make the beef cattle business a side business [15]. In an effort to reduce accounting risk and market risk by traditional farmers, breeders enter into partnerships (local language: Teseng). Basically, the purpose and objective of the partnership is a win-win solution partnership concept, which means that the cooperation carried out provides benefits for both parties. The meaning of mutual benefit here does not mean that the participants in the partnership must have the same abilities and strengths, but what is more important is that there is an equal bargaining position based on their respective roles. Partnerships made by farmers and other parties can also build work specialties that increase business efficiency, share risks, guarantee marketing and can improve farmers' ability to access information [14].

This international standard can be used for various activities of individuals, groups and organizations. The International Organization for Standardization (ISO) through ISO 31000 standardization is divided into three parts, namely risk management principles, risk management framework and risk management process. Business activities are synonymous with uncertainty regarding the market and business management. Any uncertainty creates risks that hinder the performance of a business. Uncertainty in business activities is a necessity, uncertainty creates risks, therefore in every business activity there is always a risk, namely the occurrence of unexpected events or not in accordance with company objectives [15]. Risk management will be a source of competitive advantage [16]. The process of identifying and managing risk has the objectives of improving performance, encouraging innovation, and supporting the achievement of company goals. Emphasizes the goals of risk management, namely creating and protecting value, realized by improving performance, encouraging innovation, and supporting the achievement of goals [17]. The principles of risk management do not require that they be rigid, but they can be used as a helpful guide in designing the implementation and oversight of risk management frameworks and processes.

Risk management is an effort to measure, analyze, and control risks in business activities with the main objective of getting better performance efficiency and effectiveness. The emergence of business risks has unexpected and unexpected possibilities for individuals and organizations, which are caused by management factors as well as poor corporate systems and strategies. Based on the research Cahyadi *et al.*, (2019), it shows that the business risks on small-scale farms are the risk of feed, the risk of disease, the risk of artificial insemination, the farmer's education level, the farmer's family income, and the scale of business ownership [18]. However, this research does not reveal the risks that will arise at a macro level, it still focuses on internal risks in the management of cattle and the conditions of farmers, so the authors add that the risks that will arise in Bali cattle farming are production risk, market risk, source risk. human resources, technology risk, and environmental risk. The risk assessment aspect must be massive in interpreting the internal and external conditions of individual and organizational businesses. From the description of the risks above, it is necessary to think about mitigation strategies so that risk management can be reduced to control, which aims to avoid failure in the Balinese cattle business. However, this can be done in further research.

#### 4. Conclusion

The identification of risks that will arise in traditional Balinese cattle farming is production risk, market risk, human resource risk, technology risk, and environmental risk, so a strategy is needed to reduce and overcome these risks so as not to cause failure in the Balinese cattle farming business.

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