

# Identification of Livestock Reproductive Disorders in Sumbawa District

SAMUYUS NEALMA<sup>1</sup>, AHMAD REZA JATNIKA<sup>2</sup>, GILANG RIZKI PUTRA<sup>3</sup>

<sup>1</sup>Faculty of Life Sciences and Technology, Sumbawa University of Technology

<sup>2,3</sup>Student of the Faculty of Life Sciences and Technology, Sumbawa University of Technology

**Abstract—** *The Technical Implementation Unit (UPT) Production and Animal Health (Prokeswan) is one of the government agencies that has various types of affairs including processing livestock data and livestock mutation data. Reproductive disorders in livestock can generally be classified as caused by several factors such as management factors, internal animal factors and accidental factors. This research was conducted in December 2023 in five sub-districts namely Lape sub-district, Unter Iwes sub-district, Moyo Hulu sub-district, Moyo Hilir sub-district and Labuhan Badas sub-district. This study was conducted using survey method, the parameters in this study are farm characteristics, knowledge and awareness of farmers, identification of reproductive disorders, risk factors and countermeasures, and cooperation and government support. The results of this study are that farmers' awareness of reproductive disorders is still sufficient, reproductive disorders that often occur are dystocia, the most influential risk factor is poor feed quality and government support in the form of implementing artificial insemination technology (IB).*

**Indexed Terms—***Reproductive Disorders, Livestock, Risk Factors.*

## I. INTRODUCTION

The Technical Implementation Unit (UPT) of Animal Production and Health (Prokeswan) emerged as one of the important pillars in the structure of government agencies responsible for various aspects related to animal production and health. With the main focus on processing livestock data and terna mutation data, UPT Prokeswan has a strategic role in maintaining the balance of the agricultural ecosystem and ensuring the health of livestock, which is a valuable asset of the community.

One of the crucial tasks carried out by UPT Prokeswan employees is livestock data collection, a routine activity that is carried out regularly, especially every year. The main purpose of this data collection is to gain an in-depth understanding of the number and types of livestock in each village in the UPT Prokeswan working area. The data collection process includes a thorough survey to record changes in the number and type of livestock from year to year.

Every employee of UPT Prokeswan is involved in carrying out this data collection with full responsibility. They visit every village in their area, work with local farmers, and record the data carefully. The results of the data collection are not only the main reference for knowing the dynamics of the livestock population, but also the basis for designing policies and programs related to animal production and health. The annual livestock data collection helps to detail changes in trends in livestock numbers and types, identify potential animal health risks, and provide a basis of information for agricultural development policies. With accurate and up-to-date data, UPT Prokeswan can better advise the government on optimal strategies to support local livestock.

In the era of information technology, UPT Prokeswan also continues to improve efficiency through the use of technology. Digital information systems can be used to speed up the processing of livestock data, facilitate analysis, and provide more accurate information to policy makers. Over time, UPT Prokeswan has not only become an institution that carries out livestock data collection, but also the frontline in implementing innovations to improve the welfare of farmers and maintain the sustainability of animal production. With high dedication, UPT Prokeswan continues to develop itself to become an institution that plays a significant role in maintaining

animal health and productivity, as well as making a positive contribution to agricultural development and the local economy.

Blanchard (2017) explained in detail that reproductive disorders in livestock can be grouped into three main categories that include a number of causal factors. First of all, reproductive disorders caused by management factors include various aspects, such as unskilled insemination techniques. Mistakes in handling reproductive problems with improper procedures can result in physical trauma to the animal, which in turn predisposes it to reproductive disorders. In addition, mineral deficiencies and inadequate feeding can also be a cause, resulting in suboptimal support for reproductive tract fertility and disrupting the secretion of essential hormones.

Prawira (2015) states that reproductive disorders in livestock can also arise due to internal factors of the animal itself. This includes health conditions, heredity, or genetic factors that can affect the reproductive process. In this context, an in-depth understanding of the individual characteristics of livestock and their health management is key to preventing and overcoming reproductive disorders originating from internal factors.

According to Kumar (2020), details that there are other accidental factors that can cause reproductive disorders in livestock. These include unexpected events such as accidents, extreme weather, or stress due to environmental changes. These incidental factors may be difficult to predict and anticipate, but a deep understanding of the environment the livestock are in can help in designing effective mitigation strategies.

According to Sirat (2022), farmers and animal reproductionists can develop a holistic approach to their livestock management. In addition to improving their technical skills, it is important that they have an in-depth understanding of the health conditions and genetic factors of their livestock, and are prepared to deal with unexpected events that may affect animal reproduction.

II. RESEARCH METHOD

This research was conducted in December 2023 in several areas including UPT Prokeswan Lape, Lape District, UPT Prokeswan Unter Iwes, Unter Iwes District, UPT Prokeswan Moyo Hulu, Moyo Hulu District, UPT Prokeswan Moyo Hilir, Moyo Hilir sub-district and UPT Prokeswan Labuhan Badas, Labuhan Badas sub-district, with 10 farmers in each sub-district.

This research was conducted using a survey method to each UPT Prokeswan to obtain farmer data, followed by a survey of livestock owned by farmers who were recorded to have reproductive disorders in their livestock. The research parameters were farm characteristics, knowledge and awareness, identification of reproductive disorders, risk factors, countermeasures and cooperation and support from the government. Data collection was carried out by interviewing UPT Prokeswan staff and recorded farmers to obtain appropriate information.

III. RESULTS AND DISCUSSION

1. Characteristics of The Farm

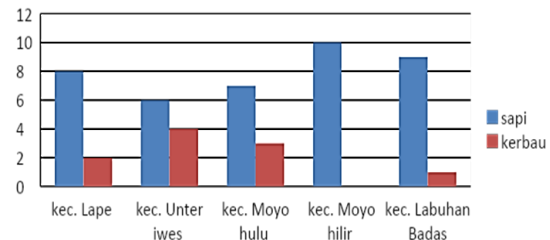


Figure 1. Characteristics of the farm

The result of the identification of livestock characteristics is to find the number and types of livestock affected by reproductive disorders in each region. Based on the graph above, the two types of livestock that often experience reproductive problems are cattle and buffaloes with each region, namely in Lape sub-district the number affected is 8 cattle and 2 buffaloes, in Unter Iwes sub-district there are 6 cattle and 4 buffaloes, in Moyo Hulu sub-district there are 7 cattle and 3 buffaloes, in Moyo Hilir sub-district there are 10 cattle while in Labuhan Badas sub-district there are 9 cattle and 1 buffalo.

2. Identification of Reproductive Disorders

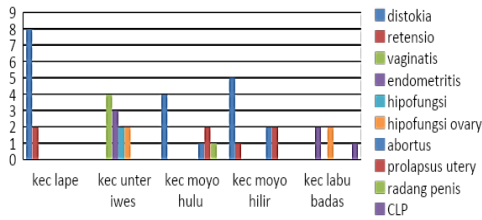


Figure 2. Identification of Reproductive Disorders

Several types of reproductive disorders that were identified as having an impact on livestock include dystocia, retention, vaginatis, endometritis, hypofunction, ovary hypofunction, abortion, ovary prolapsus, penile inflammation, and CLP. Based on the graph above, in Lape sub-district the most common diseases were dystocia and retention, in Unter Iwes sub-district vaginatis, endometritis, hypofunction, ovarian hypofunction, in Moyo Hulu sub-district abortion, prolapsus utery, dystocia, inflammation of the penis, in Moyo Hilir sub-district dystocia, prolapsus utery, retention, abortion, while in Labuhan Badas sub-district endometritis, ovarian hypofunction, and CLP were detected. The most common case was dystocia with accumulated data totaling 17 cases from the survey location. This is in accordance with the statement of Mekonnen & Nibret (2015) that dystocia is a condition where a mother cow is unable to expel her fetus through the genital tract normally due to disturbances in the uterus or birth canal and may occur due to fetal factors. Kumar et al, 2020 added that severe and long-lasting dystocia will result in prolonged hypoxia and acidosis in the calf and will eventually result in the death of the calf or the calf is born alive but cannot survive for long. This is coupled with the statement of Mekonnen & Nibret (2015) that the calves born are high in weight so that it will have an impact on the child and the mother, namely the mother will experience dystocia.

3. Knowledge and Awareness

Table 1. Knowledge and Awareness

No	Area	Indicator	Respondents	Percentage (%)
1	Kec. Lape	a. Very good	0	0
		b. Good	10	100
		c. Fair	0	0
		d. Insufficient	0	0

2	Kec. Unter Iwes	a. Very good	0	0
		b. Good	4	40
		c. Fair	3	30
		d. Insufficient	3	30
3	Kec. Moyo Hulu	a. Very good	0	0
		b. Good	0	0
		c. Fair	10	100
		d. Insufficient	0	0
4	Kec. Moyo Hilir	a. Very good	0	0
		b. Good	0	0
		c. Fair	10	100
		d. Insufficient	0	0
5	Kec. Labuhan Badas	a. Very good	0	0
		b. Good	2	20
		c. Fair	2	20
		d. Insufficient	6	60

Source: data processed 2024

From the table above, it is known that 100% of farmers have a good understanding of the importance of gangrene in Lape sub-district, in Unter Iwes sub-district 40% of farmers have a good understanding of the importance of gangrene, 30% of farmers have a good knowledge and 30% of farmers have a poor knowledge of gangrene. In Moyo Hulu sub-district, 100% of farmers have sufficient knowledge of gangrene. In Moyo Hilir sub-district, 100% of farmers have good knowledge of gangrene. And in Labuhan Badas sub-district 20% of farmers have good knowledge of gangrene, 20% of farmers have sufficient knowledge of gangrene, and 60% of farmers have sufficient knowledge of gangrene. In this case, farmers are said to have sufficient knowledge about gangrep but the countermeasures taken are still lacking. this is supported by the statement of Prawira et al., 2015; Sirat, et al., 2022a said that the obstacles that are still often faced by cattle farmers are from milk lack of knowledge on the handling of reproductive

disorders and animal health, cage sanitation that is not in accordance with the geographical conditions of the area, and the lack of livestock treatment assistance obtained.

4. Risk Factors and Countermeasures

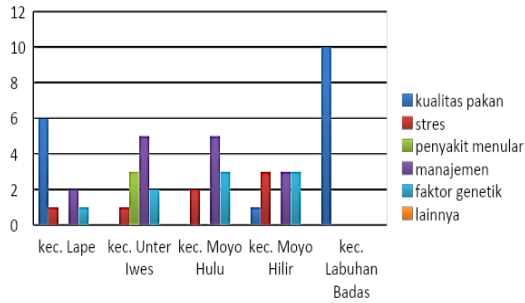


Figure 3. Risk Factors

Various risk factors that cause reproductive disorders include poor feed quality, environmental stress, infectious diseases, poor reproductive management, genetic factors and other factors. Based on the survey results in the graph above, feed quality is the biggest factor in the occurrence of reproductive disorders in each region, this is in accordance with the statement that some aspects of the causes of reproductive disorders are influenced by genetics, nutrition, selection, physiological conditions (Directorate of Livestock Breeding and Production, 2016). This is supported by the statement of Noakes et al., 2009; Ballin et al., 2022 that excessive feed will cause dystocia in cows, especially in heifers due to excessive fat deposits in the pelvic area. In Lape subdistrict, 6 cows were recorded as having reproductive disorders with the triggering factors being poor feed quality, 1 cow due to environmental stress, 2 cows due to poor reproductive management, and 1 cow due to genetic factors. In Unter Iwes subdistrict, 1 cow was recorded due to environmental stress, 3 cows due to infectious diseases, 5 cows due to poor reproductive management, and 2 cows due to genetic factors. In Moyo Hulu subdistrict, 2 cows were recorded due to environmental stress, 5 cows due to poor reproductive management, and 3 cows due to genetic factors. In Moyo Hilir Subdistrict, 1 cow was recorded due to poor feed quality, 3 cows due to environmental stress, 3 cows due to poor reproductive management, and 3 cows due to genetic factors. In Labuhan Badas

subdistrict, 10 cattle were recorded due to poor feed quality.

5. Government Cooperation and Support

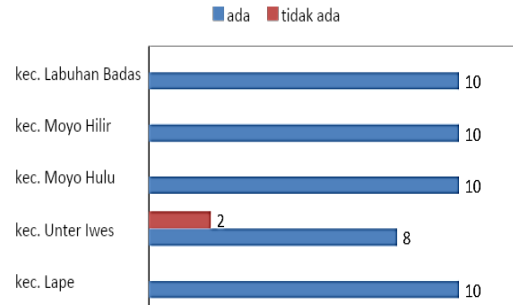


Figure 4. Government Cooperation and Support

Various cooperation that can be provided by the government in minimizing the incidence of reproductive disorders (gangrep). Based on the graph above, government support is different in each region. In Lape Subdistrict, Moyo Hulu Subdistrict, Moyo Hilir Subdistrict and got 10 support in the form of providing antibiotics and vitamins, this is supported by Lolaroh et al, 2019; Naif et al, 2020 that the purpose of this program is to provide knowledge to livestock on how to inject livestock so that their livestock become healthy. Livestock vaccination activities are something that needs to be considered by farmers to maintain the health of their livestock. while in Unter Iwes Subdistrict and Labuhan Badas Subdistrict, support is provided in the form of Artificial Insemination (IB) to livestock. This is in line with the opinion of Widodo et al. (2016) that most farmers already know the characteristics of cows in heat but do not understand the best time to do artificial insemination so that the provision of understanding to farmers related to recording pregnancy and birth, symptoms of heat, implementation of artificial insemination, and monitoring of reproductive disorders, so that with the improvement of beef cattle reproductive management can reduce the incidence of reproductive disorders. This is also in line with Afriani's statement, 2015 that the government launched the UPSUS SIWAB (Special Efforts for Pregnant Cattle) program through reproductive technology such as artificial insemination (IB).

## CONCLUSION

Based on the findings of research involving various regions, it appears that dystocia, or difficulty in birthing livestock, has become a significant challenge for farmers. However, the standard of knowledge and awareness among farmers regarding the importance of understanding reproductive disorders is still inadequate. This fact indicates the need for further efforts to improve farmers' understanding and skills in addressing livestock reproductive problems, particularly dystocia, which can have a direct impact on the overall reproductive health status of livestock. Government support through the livestock reproductive health technical guidance program is crucial. This technical guidance can embrace farmers from various levels of knowledge and experience, giving them access to the latest information and practices in handling livestock reproductive disorders, including dystocia. This approach not only provides practical solutions to problems faced by farmers but also provides a stronger knowledge foundation, which in turn will have a long-term impact on the sustainability of livestock enterprises. Government support not only includes the provision of technical guidance, but can also involve counseling, training, and implementation of policies that support livestock reproductive health. Improving the reproductive health status of livestock in Sumbawa district is not only an investment in the sustainability of local livestock farming but can also contribute to improving community economies and food security at the regional level.

Through collaboration between the government, educational institutions, and farmers, synergies can be created that bring positive changes in livestock reproductive management. Improving farmers' understanding, supported by appropriate technical guidance, can not only reduce the incidence of dystocia but also provide a foothold for an overall increase in livestock productivity. Thus, government support in this case is a strategic step to achieve the goal of sustainable agricultural development in Sumbawa district.

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