The Effect of Barrier Fence on Airside Security at Komodo International Airport

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ABSTRACT

Airside security at airports is a crucial aspect in supporting the safety and smooth operation of flight activities. One of the key elements in this security system is the perimeter fence. This study aims to analyze the influence of perimeter fence conditions on airside security at Komodo International Airport in Labuan Bajo. Based on field observations, it was found that the airport's perimeter fencing does not fully comply with the standards set out in PM 167 of 2015 and KP 601 of 2015. Several issues were identified, such as gaps in the fence, uneven height, lack of barbed wire, poor lighting and CCTV coverage, and incomplete inspection pathways.Interviews with Aviation Security (AVSEC) personnel revealed that the suboptimal condition of the perimeter fence is a major challenge in conducting security surveillance and patrols. Questionnaire results from 49 respondents also supported thisfinding, with the majority agreeing that the perimeter fence condition affects the level of airside security. The results of a simple linear regression analysis showed a coefficient of determination (R^2) of 0.826 or 82.6%, with a significance value of < 0.05, indicating a statistically significant influence between the condition of the perimeter fence and airside security.Therefore, this study concludes that improvements and regular maintenance of the perimeter fence are essential to strengthen airside security systems and minimize the risks of intrusion, sabotage, or the entry of wild animals into restricted flight operation areas.

Keywords: *Aviation Security, Perimeter Fence, Airside, Flight Safety, Komodo International Airport*

1. INTRODUCTION

Airports are vital infrastructure in supporting aviation safety and security [1]. Airside security is a top priority as it encompasses operational areas of aircraft such as runways, aprons, and taxiways, which must be protected from various potential threats [2]. One of the essential elements in airside security systems is the perimeter fence, which functions to prevent unauthorized access, intrusion by wild animals, and potential sabotage that may disrupt flight operations [3].

Standards for perimeter fences have been established both internationally and nationally. According to ICAO [4], the airport perimeter must be equipped with physical and electronic security systems, such as barbed wire, adequate lighting, and CCTV surveillance. At the national level, this is reinforced through [5] and [6], which stipulate that the perimeter fence must be at least 2.44 meters high, without any gaps from bottom to top, and equipped with CCTV, an inspection path, and emergency gates.

Komodo International Airport in Labuan Bajo is one of Indonesia's strategic international airports and serves as a major gateway for tourism in eastern Indonesia. However, based on observations and interviews, it has been identified that the perimeter fence conditions at this airport do not fully comply with existing regulations. Several issues were found, such as inconsistent fence height, open gaps, insufficient lighting and CCTV systems, as well as inadequate inspection paths.

In the airport security system, Aviation Security (AVSEC) is the unit directly responsible for maintaining the operational safety and security of aviation. In accordance with [7] on National Aviation Security and [8] on AVSEC Training Programs, AVSEC personnel are tasked with conducting perimeter patrols, monitoring CCTV, and engaging with surrounding communities to prevent security violations. Although AVSEC personnel have carried out their duties optimally, the substandard condition of the perimeter fence remains an obstacle to maintaining effective surveillance.

Several previous studies have also shown that non-standard perimeter fence conditions contribute to weaknesses in aviation security systems. A study by[9] at Adi Soemarmo Airport indicated that perimeter fences not aligned with ICAO and national regulations led to suboptimal security monitoring. [10]added that although AVSEC implemented mitigation strategies, the condition of the fence remained a significant vulnerability. Furthermore, studies by [11] at Sentani Airport and [12] at Kalimarau Airport in Berau confirmed that fences not meeting regulatory standards increased the risk of intrusion and sabotage. Another study by[13] at El Tari International Airport in Kupang concluded that perimeter fences failing to meet [5] posed potential threats to aviation security and safety, with correlation analysis showing a strong relationship between fence condition and airside security levels.

Based on these issues, this study aims to analyze the influence of perimeter fence conditions on airside security at Komodo International Airport in Labuan Bajo. The main focus of this study includes the following:

1. What is the condition of the perimeter fence at Komodo International Airport in Labuan Bajo based on applicable regulatory standards?
2. How does the condition of the perimeter fence affect airside security at Komodo International Airport in Labuan Bajo?

2. METHODS

2.1. Research

According to [14], a research method is a scientific approach used to obtain data for specific purposes and uses. Therefore, it is important to consider four key elements: 1) the scientific method; 2) data; 3) objectives; and 4) usability. Furthermore, [15] also defines a research method, stating that a research method is a procedure or step in conducting research that involves how researchers collect, analyze, and present data with scientific characteristics such as: 1) rational; 2) empirical; and 3) systematic.

From the explanation above, it can be concluded that a research method is an approach used to obtain data, which will later be used according to the research objectives. In this case, the researcher used a quantitative research method.

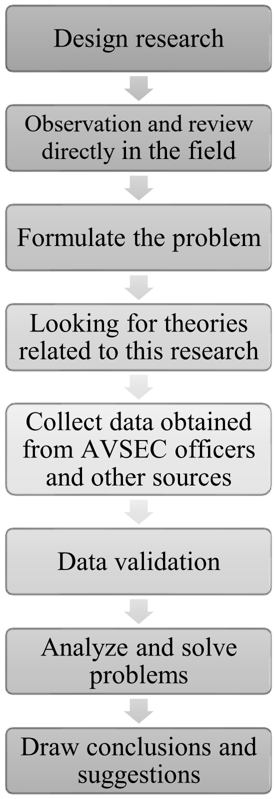

Figure 2.1 Research Design

2.2. Research Variable

In this study the researchers used two research variables, namely the independent or independent variable (X) which is the variable that influences or causes the emergence of the dependent variable and the dependent or dependent variable (Y) which is the variable that is affected or which is the result of theindependent variable.

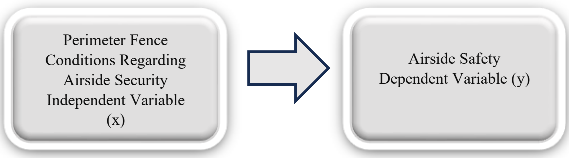

Figure 2.2 Research Variable

2.3. Research Subject

2.3.1. Population

In this study, a population is defined as a group of subjects with specific characteristics to be analyzed [14]. The population of this study was all Aviation Security (AVSEC) personnel at Komodo Labuan Bajo International Airport, totaling 49 people. The independent variable in this study was the condition of the perimeter fence (X), while the dependent variable was airside security (Y).

2.3.2. Sample

According to [14] a sample is a subset of a population that possesses certain characteristics and can represent the entire population. Using a sample simplifies the data collection process, especially when reaching the entire population is not feasible. Therefore, selecting an appropriate sample is crucial to ensure the validity and generalizability of research results.

In this study, the researcher selected all Aviation Security (AVSEC) personnel on duty at Komodo International Airport in Labuan Bajo as the sample, totaling 49 respondents. This number was chosen because the entire population could be reached, ensuring that the sample was representative of the population as a whole.

2.3.3. Research Object

According to [14], a research object is an attribute, characteristic, or value inherent in a particular person, object, or activity that becomes the focus of the study for analysis and conclusions. In this study, the object of study is the perimeter fence facility at Komodo International Airport in Labuan Bajo.

2.4. Data Collection Techniques and Research Instruments

2.4.1. Data Collection Technique

According to [14], data collection methods are a crucial aspect of research because they serve to obtain the necessary information. Without proper techniques, the resulting data may be invalid. Data collection is the procedure researchers use to obtain information relevant to the focus of their study.

In this study, data collection was conducted to obtain information regarding the condition of the perimeter fence regarding airside security at Komodo International Airport in Labuan Bajo. The methods used by the researchers are explained as follows:

2.4.1.1. Observation

According to [14], observation is unique compared to other methods such as interviews and questionnaires because it does not always require direct interaction with respondents. Observation allows for the observation of people and objects in the surrounding environment to understand the activities, events, and meanings of the observed events.

In this study, researchers conducted direct observations of the condition of the perimeter fence at Komodo International Airport in Labuan Bajo during On-The-Job Training (OJT) activities from January 6 to February 28, 2025.

2.4.1.2. Interview

According to Berger in [16], an interview is a two-way communication between a researcher and an informant to gather relevant information from those with knowledge or experience related to the research object.

In this study, researchers conducted interviews with Aviation Security (AVSEC) personnel at Komodo International Airport in Labuan Bajo. The goal was to gain an in-depth understanding of the impact of the perimeter fence on airside security. These interviews were expected to provide accurate data regarding the fence's physical contribution to security, as well as the challenges AVSEC faces in maintaining security in the area.

2.4.1.3. Survey

This study used a survey approach with a questionnaire as the primary data collection instrument. According to [17], a survey is a method for identifying, describing, and analyzing information related to a research problem. The questionnaire technique was used to obtain data through written questions answered by respondents based on their insights or experiences. In this study, the questionnaire contained statements regarding the condition of the perimeter fence and its relationship to airside security at Komodo Labuan Bajo International Airport.

2.4.2. Research Instrument

According to [18], research instruments serve as tools for collecting, measuring, and analyzing relevant data related to the subject being studied. In this study, the researcher used a questionnaire as the primary instrument to obtain respondents' responses to the statements compiled in the questionnaire.

2.4.2.1. Observation Sheet

According to [14], observation sheets are used to collect data related to research variables, ensuring high validity and reliability. In this study, researchers used an observation sheet in the form of a checklist and scores tailored to the object being observed.

2.4.2.2. Interview Sheet

In this study, the interview form was used to obtain data from Aviation Security (AVSEC) personnel regarding the impact of perimeter fencing conditions on airside security at Komodo International Airport, Labuan Bajo. According to Berger [16], an interview is a conversation between a researcher and an informant to obtain relevant information. The interview questions covered key indicators such as barrier type, fence height, seamless physical security, visibility, lighting, CCTV systems, inspection roads, and emergency exits. The goal was to obtain information on the fence's effectiveness in preventing security breaches.

2.4.2.3. Questionnaire

This study used a questionnaire as a data collection instrument. Respondents were not given open-ended response options, thus ensuring more focused and easier analysis of the data.The researchers used a Likert scale to measure the responses of Aviation Security (AVSEC) personnel regarding the impact of perimeter fencing conditions on airside security at Komodo International Airport, Labuan Bajo.

In this study, a Likert scale was used, where respondents' opinions were measured using five levels of statements: Strongly Agree (5), Agree (4), Neutral (3), Disagree (2), and Strongly Disagree (1). Each answer was scored based on the appropriate scale weight. The collected data were then processed by multiplying the number of answers in each category by the predetermined weight. The calculation was carried out as follows: the number of respondents who chose "Strongly Agree" was multiplied by a score of 5; "Agree" by a score of 4; "Neutral" by a score of 3; "Disagree" by a score of 2; and "Strongly Disagree" by a score of 1.

From the data obtained, it is then processed by multiplying each answer point with the weight that has been determined by 4 able weight value, then the calculation results of the respondents' answers are as follows.

Respondents who answered strongly agreed

(5) = 5 x n = n

Respondents who answered agreed

(4) = 4 x n = n

Respondents who answered neutral

(3) = 3 x n = n

Respondents who answered disagree

(2) = 2 x n = n

Respondents who answered strongly disagreed

(1) = 1 x n = n

Total Score = n, the value of n obtained from the respondent's answer to get the interpretation results must be known in advance the highest score (X) and the lowest score (Y) for the assessment item.

X = Highest Likert score x number of respondents (Highest Score 5)

Y = lowest Likert score x number of respondents (lowest score 1)

After finding the total score, the next step is to determine the assessment of the respondent's interpretation using the Index % formula.

$$\textbf{Index Formula}\ \% = \frac{\textbf{Total Score}}{\textbf{X}}\ \textbf{x 100}$$

From the calculation data for the number of indexes above, it is then entered into the value presentation table, whether it is included in the category of the strongly agree scale or other than that scale.

Table 2.2 Value Category

Answer	Rating Category
0% - 19.99%	Very (Disagree, Bad, Dislike)
20% - 39.99%	No (Agree or Like) or Bad
40% - 59.99%	Neutral or Enough
60% - 79.99%	Agree, OK, Like
80% - 100%	Very (Agree, Good, Like)

2.5. Data Analysis Technique

2.5.1. Validity Test

According to [19], validity testing is a procedure to ensure whether a measurement instrument can be considered valid. In this study, researchers used construct validity testing to assess the extent to which the instrument accurately measures the intended variables. Testing was conducted on each item using the Corrected Item-Total Correlation formula using SPSS version 25, then compared with the rt table value at a 5% significance level.

2.5.2. Reability Test

According to [19], reliability refers to the extent to which an instrument consistently produces the same results when used to measure what it is intended to measure. A questionnaire is declared reliable or reliable if a person's answer contains a statement that is consistent or stable from time to time a variable is made reliable if it gives a Cronbach's Alpha value > 0.6. Based on the output table generated from the SPSS application, it is known that the Cronbach's Alpha value for variable X is 0.7 and the Cronbach's Alpha value for variable Y is 0.7. After a comparison, it can be said that the proposed questionnaire proved to be reliable because the results obtained were greater than (>) 0.6.

2.5.3. Normality Test

A normality test was conducted to determine whether the research variable data were normally distributed, which is a requirement in parametric statistical analysis. In this study, the normality test used the Kolmogorov-Smirnov method with the help of SPSS version 25. The results were interpreted based on the significance value (p-value), where the data was considered normal if $p > 0.05$, and abnormal if $p \leqslant 0.05$.

2.5.4. linierity Test

The linearity test aims to determine whether there is a linear relationship between the independent and dependent variables. The test is conducted through ANOVA analysis using SPSS version 25. The interpretation of the results is based on the significance value (p-value), where the relationship is said to be linear if $p > 0.05$, and nonlinear if $p \leqslant 0.05$.

2.5.5. Simple Linear Regression Analysis Test

To determine the relationship between variables, this study used simple linear regression analysis. According to [14], simple linear regression is a statistical method used to measure the influence of an independent variable (X) on a dependent variable (Y).

This analysis aims to determine the direction of the relationship between variables, whether positive (in the same direction) or negative (in the opposite direction), and to predict changes in the dependent variable based on changes in the independent variable.

The formula for simple linear regression is:

$Y = a + bX$

Where:

Y = Predicted dependent variable

a = Constant

b = Regression coefficient

X = Independent variable

3. RESULTS AND DISCUSSION

3.1. research result

3.1.1. Observation Results

Aviation Security (AVSEC) personnel routinely patrol the perimeter fence at 6:00 a.m. Central Indonesian Time (WITA) using patrol cars. However, based on observations during On-the-Job Training (OJT), patrols do not cover the entire fence area. Furthermore, researchers found several fence conditions that did not comply with the provisions of PM 167 of 2015 concerning Access Control and KP 601 of 2015 concerning Limited Security Area Fencing Standards.

Table 3. 1 Recapitulation of Field Observation Data

No.	Aspects	Field Conditions	Description
1	Fence Type	Physical fence exists between public and restricted areas	Compliant
2	Fence Height	2.44 meters, but some points do not meet the minimum standard	Non-compliant
3	Gaps	A gap found at one point, drains not fully covered	Non-compliant
4	Line of Sight	Some parts are blocked by wild vegetation	Non-compliant
5	Lighting	Only some points have lighting installed	Non-compliant
6	CCTV	CCTV only installed at certain points	Non-compliant
7	Inspection Path	Present only at several segments of the perimeter fence	Non-compliant
8	Emergency Gate	Emergency gate is available	Compliant

3.1.2. Interview result

Interviews were conducted with two Aviation Security (AVSEC) personnel to obtain information on the impact of the perimeter fence on airside security at Komodo Labuan Bajo International Airport. Data collected covered incidents over the past year. The interviews were conducted via WhatsApp video calls and Google Forms.

Interviews with two Aviation Security (AVSEC) personnel at Komodo Labuan Bajo International Airport revealed that several perimeter fences were not in optimal condition to support airside security. The information collected covered incidents over the past year and was obtained through online interviews via WhatsApp and Google Forms. The interviewees reported challenges such as gaps in the fence, limited lighting, and limited CCTV coverage, which impacted the effectiveness of patrols and surveillance.

3.1.3. Questionnaire Result

Aviation Security (AVSEC) personnel, it was found that the majority of respondents stated that the perimeter fence at Komodo Labuan Bajo International Airport does not fully meet security standards. Of the eight indicators of variable X (fence condition), the average score was in the category of "Agree" to "Strongly Agree" that facilities such as CCTV, lighting, and inspection lanes are still inadequate. Similarly, the indicator variable Y (airside security) showed that respondents considered the condition of the perimeter fence to affect the effectiveness of security supervision.

Based on the questionnaire data analysis, most of the indicators for variable X (perimeter fence condition) and variable Y (airside security) received scores categorized as "Very Agree" and "Agree." Several prominent indicators categorized as "Very Agree" include X1 (88%), X5 (82%), X6 (80%), X8 (81%), as well as Y1 (87%), Y5 (88%), Y6 (86%), and Y8 (86%). Meanwhile, other indicators such as X2, X3, X4, and X7 scored between 67–79%, falling under the "Agree" category, along with Y2, Y3, Y4, and Y7, which ranged from 66–69%. These results indicate that, in general, respondents gave a positive assessment of the perimeter fence condition and its relation to airside security.

3.2. Data Analysis

After getting the percentage results of the questionnaires that have been distributed to respondents, the next step is to analyze the data with several tests.

3.2.1. Validity Test

Validity testing was conducted using SPSS version 25 using the Corrected Item-Total Correlation technique. The results showed that all items had r_{count} values $>$ r_{table}, thus being declared valid.

Based on the validity test results for variable X (perimeter fence condition) and variable Y (airside security), all items were declared valid. This is indicated by the calculated r-values for all items being greater than the r table value of 0.288, and the significance value of 0.000, which is less than 0.05. For variable X, the highest r-value was found in item X7 (0.891), followed by X8 (0.851), X5 (0.811), and X6 (0.769), while the lowest was in X3 (0.671). Similarly, for variable Y, the highest r-value was in item Y6 (0.787), followed by Y7 (0.773), Y8 (0.768), and Y1 (0.749), with the lowest in Y3 (0.625). Therefore, it can be concluded that all items from both variables demonstrate sufficient validity and are suitable for use in this study.

3.2.2. Reability Test

Based on the results of the reliability test using Cronbach's Alpha, a value of 0.889 was obtained for variable X and 0.873 for variable Y. Both values are above the minimum standard of 0.60, so they are declared reliable.

Based on the results of the reliability test, the Cronbach’s Alpha value for variable X (perimeter fence condition) was 0.901, and for variable Y (airside security) it was 0.857. Since both values exceed the minimum threshold of 0.7, it can be concluded that the instruments used in this study are reliable, meaning they are consistent and trustworthy for measuring each respective variable.

3.3.3. Normality test

The results of the normality test using the Kolmogorov-Smirnov method showed a significance value of 0.200 > 0.05, so the data was declared normally distributed.

Table 3. 2 Normality Test Results

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		49
Normal Parameters[a,b]	Mean	,0000000
	Std. Deviation	1,42071162
Most Extreme Differences	Absolute	,077
	Positive	,074
	Negative	-,077
Test Statistic		,077
Asymp. Sig. (2-tailed)		,200[c,d]

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

d. This is a lower bound of the true significance.

3.3.4. Linierty Test

The linearity test shows a linearity significance value of 0.000 < 0.05, which means there is a linear relationship between the condition of the perimeter fence and airside security.

Table 3.3 Linierty Test Result

ANOVA Table

			Sum of Squares	df	Mean Square	F	Sig.
KEAMANAN_SISI_UDARA * KONDISI_PAGAR_PERIMETER	Between Groups	(Combined)	481,090	13	37,007	17,178	,000
		Linearity	459,606	1	459,606	213,345	,000
		Deviation from Linearity	21,484	12	1,790	,831	,619
	Within Groups		75,400	35	2,154		
	Total		556,490	48			

3.3.5. Simple Linear Regression Test

This study uses simple linear regression to measure the influence of the perimeter fence condition on airside security. The model's goodness of fit is indicated by the coefficient of determination (R^2), which reflects the proportion of variance in airside security explained by the perimeter fence condition. The analysis was conducted using IBM SPSS Statistics version 25, and the results are presented in the following table:

Table 3.4 Results of the Determination Coefficient Test

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,909[a]	,826	,822	1,436

a. Predictors: (Constant), KONDISI_PAGAR_PERIMETER

The results of a simple linear regression analysis indicate that the condition of the perimeter fence (X) significantly influences airside security (Y). The coefficient of determination (R^2) is 0.826, meaning that 82.6% of the variation in airside security can be explained by the condition of the perimeter fence.

Table 3.5 F Test Results

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	459,606	1	459,606	222,962	,000[b]
	Residual	96,884	47	2,061		
	Total	556,490	48			

a. Dependent Variable: KEAMANAN_SISI_UDARA

b. Predictors: (Constant), KONDISI_PAGAR_PERIMETER

Simple linear regression analysis is used to determine the influence of the perimeter fence condition on airside security. Based on the analysis results, the calculated F value is 222.962 with a significance level of 0.000. Since the significance value is less than 0.05, it can be concluded that the perimeter fence condition has a significant effect on airside security. The simple linear regression equation obtained is as follows:

Table 3. 6 Simple Linear Regression Test Results

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	7,413	1,586		4,674	,000
	KONDISI_PAGAR_PERIMETER	,762	,051	,909	14,932	,000

a. Dependent Variable: KEAMANAN_SISI_UDARA

Based on the analysis results, the constant value (a) is 7.413 and the regression coefficient (b) is 0.762, resulting in the following simple linear regression equation:

$$Y = 7.413 + 0.762X$$

This means that if the condition of the perimeter fence does not meet the standard, the level of airside security is 7.413. The regression coefficient of 0.762 indicates that for every one-unit increase in the perimeter fence condition, airside security increases by 0.762. This shows that the perimeter fence condition has a positive influence on airside security.

The significance test shows a significance value of 0.000 (< 0.05), indicating that the perimeter fence condition significantly affects airside security. Furthermore, the t_{count} value of 14.932 is greater than the t_{table} value of 2.012, which further confirms that variable X (perimeter fence condition) has an effect on variable Y (airside security).

3.2. Discussion of Research Result

3.2.1. Perimeter Fence Condition

Based on field observation results, it was found that most of the perimeter fence conditions at Komodo Labuan Bajo International Airport do not meet the standards stipulated in the Minister of Transportation

Regulation Number PM 167 of 2015 concerning Access Control to Security Restricted Areas at Airports. Of the eight technical aspects observed, only two were declared compliant with the provisions, while the remaining six showed non-compliance that could potentially reduce the level of airside security. These findings indicate weaknesses in the airport’s physical security infrastructure, which, if not addressed promptly, could increase the risk of security breaches, intrusions, sabotage, or operational disruptions caused by external factors. Therefore, comprehensive and well-planned corrective measures are necessary to ensure that the perimeter fence meets the technical and operational requirements as mandated by the applicable regulations.

3.2.2. The Impact of Perimeter Fencing Conditions on Airside Security at Komodo Labuan Bajo International Airport

This study revealed that the condition of the perimeter fence at Komodo International Airport in Labuan Bajo does not fully meet the standards of PM 167 of 2015 and KP 601 of 2015. Field observations revealed several deficiencies, such as gaps in the fence, uneven height, overgrowth obstructing visibility, limited lighting and CCTV, a lack of inspection routes, and the fence's proximity to residential areas.

Interviews with AVSEC personnel confirmed these findings. Interviewees stated that limited perimeter infrastructure was a major challenge in maintaining airside security, despite mitigation efforts through patrols and coordination with the surrounding community.

Questionnaire results from 49 AVSEC personnel indicated that the majority of respondents considered the condition of the perimeter fence to impact airside security. The index scores for variables X and Y ranged from "Agree" to "Strongly Agree."

Simple linear regression analysis showed a coefficient of determination (R^2) of 0.826, with a significance level of <0.05. This shows that the condition of the perimeter fence contributes 82.6% to the level of airside security, so the alternative hypothesis is accepted.

3.3. Implications

The findings of this study indicate that the condition of the perimeter fence has a significant influence on airside security at Komodo International Airport, contributing 82.6% to the overall security level. The implication of this result is that airport management should prioritize the improvement and maintenance of the perimeter fence as a strategic component of security management. A fence that meets regulatory standards will facilitate AVSEC patrol operations, reduce vulnerable points, and improve surveillance efficiency across the airside area. Enhancements such as closing gaps, adjusting fence height in accordance with regulations, installing barbed wire, improving lighting, and optimizing CCTV systems will directly contribute to preventing intrusion, sabotage, and wildlife hazards. Beyond operational benefits, improving the perimeter fence will also enhance the airport’s image as a safe and reliable gateway for tourism. These findings can serve as the basis for developing internal policies, allocating security budgets, establishing regular inspection programs, and implementing modern surveillance technologies to build an optimal, sustainable, and adaptive perimeter security system capable of addressing future security challenges.

4. CONCLUSION

This study shows that the condition of the perimeter fence at Komodo International Airport, Labuan Bajo, does not fully comply with the standards of PM 167 of 2015 and KP 601 of 2015. Of the eight indicators observed, only a portion met the requirements, with findings such as gaps in the fence, uneven height, uncontrolled vegetation, limited lighting, CCTV, and inspection lanes.

Interviews with AVSEC personnel confirmed that inadequate perimeter infrastructure is a major obstacle to maintaining airside security, particularly in terms of surveillance and patrols.

Questionnaire results analyzed using a simple linear regression test indicated that the condition of the perimeter fence contributed 82.6% to the level of airside security, with a statistically significant relationship.

Therefore, it can be concluded that the condition of the perimeter fence significantly influences airside security. Improvements to perimeter fence elements are crucial to enhance flight safety and prevent the risk of operational disruptions.

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