

Analysis of the Role of Apron Movement Control (AMC) Officers in Handling Foreign Object Debris (FOD) to Improve Aviation Safety at Komodo Labuan Bajo Airport

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Abstract

Foreign Object Debris (FOD) are foreign objects that are animate and inanimate around the airside area which can cause damage to aircraft during landing and take off. The role of Apron Movement Control (AMC) in handling Foreign Object Debris (FOD) at Komodo Labuan Bajo Airport in order to avoid the risk of accidents for air transportation. This research uses qualitative. The data collected using observation (direct observation), interviews and documentation. After obtaining the required data, the researcher processed the data through several stages, namely data reduction, data presentation, and drawing conclusions. Based on the research results obtained by researchers, the role of Apron Movement Control (AMC) officers in handling Foreign Object Debris (FOD) to improve flight safety at Komodo Labuan Bajo Airport has been carried out in accordance with the SOP (Standard Operating Procedure) that applies at the airport. Obstacles that are often faced by Apron Movement Control (AMC) officers when handling Foreign Object Debris (FOD) to ensure flight safety at Komodo Labuan Bajo Airport, the most common of which is gravel or asphalt scraping, then nails, metal, luggage tags are found. , fruit peel, there are also animals such as dogs that get into the apron. This is Foreign Object Debris (FOD) found at Komodo Labuan Bajo Airport. Apron Movement Control (AMC) officers handle Foreign Object Debris (FOD), namely they check and clean around the apron area.

Keywords: Apron Movement Control (AMC), Foreign Object Debris (FOD).



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INTRODUCTION

An airport according to the law of the Republic of Indonesia Number 1 of 2009 concerning aviation is an area in waters/land with certain boundaries that is used as a place for aircraft to land and take off, board and disembark passengers, loading and unloading of goods, equipped with facilities - Other supporting facilities. Along with the times, airport facilities are very important and needed, because people value air transportation as being able to travel between islands/countries faster than other transportation and there are also many low-cost airlines offered by various airlines. one of the strengths of its own attraction for lovers of air transportation. Komodo Airport is located in a city called Labuan Bajo. The category of this airport is Domestic, the class of this airport is class II, this airport is managed by UPT Ditjen Hubud, the airport address is Jl. Yohanes Sehadun, Labuan Bajo. (Directorate General of Indonesian Transportation). Labuan Bajo is one of the villages that has exoticism, Labuan Bajo is a very famous tourist destination abroad and is a unique destination. Labuan Bajo has been designated as a super priority tourist destination in Indonesia.

The airport has one unit, namely AMC (Apron Movement Control). AMC is a work unit of the air side operations service which is tasked with managing and supervising order, safety and smooth parking/placement of aircraft and other traffic on the apron. AMC officers who play a role in everything on the apron. Supervision carried out by AMC is to create discipline

in the apron area to support flight safety. So it is only natural that AMC officers increase their supervisory duties to avoid various violations that occur around the apron.

According to Law Number 1 of 2009 concerning aviation safety, aviation safety is a state of fulfilling safety requirements in the use of airspace, airports, air transportation, aircraft, flight security, and public facilities that support the smooth running of flights. In the world of aviation, safety and security is very important with the existence of aviation safety, it will reduce the risk of accidents on aircraft that occur in the world of aviation. To improve flight safety on the apron, it is necessary to have a standard operating procedure (SOP) so that AMC officers can carry out their duties in accordance with applicable rules and operational standards. FOD (Foreign Object Debris) is an object that is around the airside area that is on and off which can cause damage to aircraft during landing and takeoff. The role of Apron Movement Control is very necessary to avoid accidents when the aircraft is around the apron area (Utama 2019).

Factors that can interfere with aviation safety and security include weather factors, human error, protection, and environmental factors or FOD. Some of the factors that cause FOD (Foreign Object Debris) are the frequent passengers leaving trash around the apron, either intentionally or unintentionally. (Arief 2021). The results of the On Job Training in the August-September 2022 period which was held at Komodo Labuan Bajo Airport, researchers saw that there were still foreign objects (Foreign Object Debris) such as candy wrappers and soft drink cans or bottles that had fallen around the apron. This can have a safety impact and be less comfortable for air transportation users. Overcoming the problems above, it is necessary to have the role of AMC officers in handling FOD to improve and realize flight security and safety at Komodo Airport in order to avoid the risk of accidents for air transportation.

The purpose of this study was to determine the role of AMC officers in handling Foreign Object Debris (FOD) to improve flight safety at Komodo Labuan Bajo Airport and to find out what obstacles AMC officers often face when handling Foreign Object Debris (FOD) to ensure safety. flights at Komodo Labuan Bajo Airport.

Literature Review

Definition of Role

The definition of role according to Soerjono (2002) role is a dynamic aspect with status, if a person carries out his rights and obligations according to his status, then he has carried out a role.

AMC (Apron Movement Control)

AMC (Apron Movement Control) is a work unit of the Air Operations Service which is tasked with managing and supervising order, safety and smooth parking/placement of aircraft and other traffic on the Apron. AMC is one of the units that has the task of managing the apron, meaning that all matters relating to the apron are the responsibility of the AMC unit. The main task and function of AMC is to serve airport operations in supervising all aircraft movements from the apron, airside, taxiway to runway. Regulation of the Director General of Civil Aviation No. 21 of 2015 stipulates that personnel who dispatch aircraft for AMC are airport officers who do have professional licenses and qualifications in monitoring traffic order and security at the aircraft parking apron.

FOD (Foreign Object Debris)

Apron cleanliness is very important for flight safety. Objects scattered are potentially dangerous on the apron, namely FOD (Foreign Object Debris) which can cause damage to aircraft and even endanger human life and limb. All Apron Movement Control officers have an obligation to maintain the cleanliness of the Apron, however in dealing with Foreign Object Debris it is the duty of Apron Movement Control officers in the Safety Apron Officer section, because they have the main task of carrying out operational activities around the apron as well as monitoring and controlling flight safety. on the apron.

Aviation Safety

Government Regulation of the Republic of Indonesia Number 3 of 2001 explains that aviation safety is the condition of realizing smooth flight operations in accordance with operational procedures and technical feasibility requirements for aviation facilities and infrastructure and their supports. Aviation safety is one of the things to fulfill the requirements in the safety and utilization of airspace, aircraft, air transportation, flight navigation, as well as public facilities and other supporting facilities. ICAO (International Civil Aviation Organization) defines that safety is a condition where the risk of injury to someone or the risk of damage to something has been reduced or maintained at a predetermined level. So aviation security and safety is a condition for the realization of flights so that they can be carried out safely, safely, efficiently and in accordance with the flight plan.

Airport

According to Law Number 1 of 2009 concerning Aviation, an airport is an area with certain boundaries on land and/or waters that is used as a place for aircraft to land and take off, board passengers, load and unload goods, which is equipped with safety and security facilities. flights, as well as basic and other supporting facilities. Airport Management according to Law Number 1 of 2009 concerning Aviation, is something that is related to airport management and other activities and carrying out the functions of security, safety and smoothness and orderliness of aircraft traffic flow.

A Brief History of Komodo Airport

Komodo Airport is an airport located on the western tip of the island of Flores, to be precise in one of the districts, namely West Manggarai with Labuan Bajo as its capital. This airport began to be built/worked on in 1975 by using male and female workers working together with the east-west runway direction. After the construction of the grass runway was completed, a flight trial was held, from the results of the trial it turned out that the direction of the East West Run Way contained an obstacle and finally the direction of the Run Way was changed to North South. In 1980 this airport was inaugurated by the minister of transportation Rusmin Nuryadin, Governor Ben Mboy and Regent Frans Sales Lega with the name Mutiara II Airport with the Grass Run Way. At that time, all airport operations were under Satar Tacik Ruteng Airport and maintenance costs were under El Tari Kupang Airport. After the 1986/1987 State Budget was available, the airport was built using the Asphalt Runway and was carried out by PT Waskita Karya. At that time, the ancient animal, namely the Komodo dragon, was well known to the outside world, so the local government proposed the name Mutiara II to become Komodo Airport in 1991. According to the Ministry of the Republic of Indonesia posted on the website of the Bureau of Communication and Public Information regarding cooperation in the development of Komodo Airport with private

parties to improve Service Quality Komodo Airport will be the gateway to Labuan Bajo. The length of the Komodo airport runway is currently 2,250 meters and will be extended again to 2,750 meters, then for the expansion of the apron area of 20,000 square meters, and the expansion of the domestic terminal area of 6,500 square meters. Construction for an international terminal covering an area of 5,538 square meters, and construction of a cargo terminal covering an area of 2,860 square meters.

Relevant Research

Table 1. Relevant Research

No	Nam3	Research Title	Year	Result Research
1.	Maryanti Azis, Aditya Dewantari	Performance Analysis of Apron Movement Control (AMC) Officers in Handling Foreign Debris Objects (FOD) at Sumenep Trunojoyo Airport	2022	Research results show that: 1. The performance of officers from the Movement Control Apron Unit (AMC) at Trunojoyo Sumenep Airport was quite good in handling FOD foreign object debris by inspection, filling out logbooks. 2. The results of this study also show the obstacles found by the Apron Movement Control Unit (AMC) at Trunojoyo Sumenep Airport, namely from vehicle facilities and when cleaning Foreign Debris (FOD) in the form of folding water using emergency facilities in the form of shovels and buckets.
1.	M Arief Rahman	The Role of Apron Movement Control (AMC) in Anticipating Foreign Object Debris (FOD) in the Parking Stand Area at Tjilik Palangka Raya Airport	2021	The results of this study show, the impact that occurs when FOD is sucked in by the aircraft engine will experience engine damage, and the factors that cause FOD are that passengers often throw garbage either intentionally or unintentionally, then Ground Handling officers are often caught throwing garbage carelessly, some FOD also arise from baggage storage areas that accidentally fall into the Apron during loading or unloading activities, FOD can also originate from Geound Support Equipment (GSE) vehicles, and damage to asphalt or concrete on the Apron.
2.	Aulia Selma Ordella	Performance Analysis of Apron Movement Control (AMC) Officers on Aviation Safety at Abdulrachman Saleh Airport in Malang	2020	The results of this study are that the performance of the Apron Movement Control Unit (AMC) at Abdulrachman Saleh Airport Malang is not optimal, and the facilities are not in accordance with the applicable regulations because there are several facilities that are not yet available.

Source: Researcher

RESEARCH METHODS

The research design is a qualitative research. The data obtained are descriptive in nature and cannot be analyzed through numbers or statistics. According to Sugiyono (2017) qualitative research is a study that is used to examine the conditions of natural objects, where research is a key instrument, data collection techniques are combined or known as triangulation. This research will be conducted in February 2023, at Komodo Airport, Jl Eltari, Labuan Bajo East Nusa Tenggara 86554.

Data Type

The data used in this study are the first data (primary) and the second data (secondary).

1. First data (primary). Sugiyono (2017) explained that the first data or primary data is data obtained directly through interviews with Apron Movement Control (AMC) officers related to the way FOD handlers to realize and improve flight safety at Komodo Airport.
2. Secondary data. Sugiyono (2017) said that the second data (secondary data) is data obtained indirectly, that is, it can be obtained through other people or data and documents.

Data Collection Technique

The purpose of data collection techniques is to obtain data. There are three kinds of data collection techniques, namely interviews, direct observation (observation), and documentation.

1. Observation Techniques. Sugiyono (2017) says that Observation is a data collection technique that is carried out by direct observation of the intended object.
2. Interview. According to Sugiyono (2017) interviews are a data collection technique obtained through question and answer to informants. This interview was conducted with Apron Movement Control (AMC) officers in order to find out the role of AMC officers in handling FOD to improve and realize flight safety, interviews will be conducted with the Head of the AMC Unit and two AMC Unit Officers at Komodo Labuan Bajo Airport.
3. Documents. Documents according to Sugiyono (2017) are records of events that have passed. In documents usually in the form of pictures, writing, and the works of a person. The documents needed in the research are in the form of photos, SOP data, regulations and others.

RESEARCH RESULTS AND DISCUSSION

What is the Role of AMC Officers in Handling Foreign Object Debris to improve flight safety at Komodo Labuan Bajo Airport

Apron Movement Control (AMC) is the work unit of the Airborne Operations Service which is tasked with managing and supervising order, safety and smooth parking/placement of aircraft and other traffic on the Apron. (source: Komodo airport AMC SOP). Ensuring flight safety AMC officers are asked to always pay attention to cleanliness around the Komodo Airport apron. The main duties and functions of the Apron Movement Control (AMC) officers already exist, namely to always supervise and check the apron area so that it is clean and free from types of Foreign Object Debris (FOD) which can disrupt the smooth running of flights. There are 10 AMC officers at Komodo Labuan Bajo Airport, namely 1 unit head (Kanit) and 9 members. The officers are divided into 2 work shifts, namely the morning shift and the afternoon shift. When entering a shift, AMC officers always carry out sweeping and cleaning around the apron area, if various types of Foreign Object Debris (FOD) are found such as scraped asphalt, gravel, stagnant water due to rain in the parking stand area, grass, nails, iron, and so on then it is immediately cleaned, collected, and picked up by AMC officers and assisted by Ground Handling officers to pick up the garbage and throw it into the garbage collection tanks that have been provided around the apron. (source; results of interviews with AMC officers).

Related to Foreign Object Debris (FOD) from AMC officers, usually before the plane lands, we usually go down to the Apron to see the types of Foreign Object Debris (FOD) or small objects that could be dangerous to the engine and damage to the aircraft. Usually, AMC officers also work together with officers from Ground Handling in a place that has been designated for aircraft parking and there will conduct a sweep to ensure that there are no small objects of the FOD type that cause damage to the aircraft and endanger the lives of

passengers. The AMC unit at Komodo Airport plays an important role in supporting flight safety, especially with regard to cleanliness around the apron. AMC officers also carry out their duties in accordance with applicable rules and SOPs in accordance with existing policies at the airport. Researchers have conducted interviews, as well as direct observations on the AMC unit on matters related to the main functions and tasks based on the SOP that have been carried out by the AMC unit to achieve smooth flights.

Obstacles often faced by AMC officers in handling Foreign Object Debris To improve flight safety at Komodo Labuan Bajo Airport

The most common obstacle to the Komodo Airport AMC unit is the frequent presence of gravel or scraping of asphalt and then it is common to find nails, iron, luggage tags, rambutan fruit skins originating from items when unloading luggage from the plane is carried out by cargo officers and they forget to throw it away the trash to the trash. Sometimes there is rainwater from the night and freshly cut grass on the apron, there are also animals such as dogs that sometimes get into the apron. These are the types of foreign objects and animals (FOD) found at the airport. The method used by AMC officers in the Foreign Object Debris (FOD) handling process is that they check, they pick up the paper and gravel and throw it in the trash. Then for stagnant rainwater they prepare a tool to push the water out of the apron and the grass that has just been cut by the AMC officer or the Ground Handling officer lifts it and throws it in the trash, for animals such as dogs usually the AMC officer drives away and chases the animal by using an AMC car. (source; results of interviews and observations).

The impact of Foreign Object Debris (FOD) for flight safety if the Foreign Object Debris (FOD) type of gravel and bitumen is sucked in by the aircraft engine it will cause a fire and damage the components of the aircraft as well as the movement of GSE on the apron and will fatally endanger the safety of the lives of passengers and flight. It could also be that when the plane lands and the engine is still running it can throw FOD types such as rocks, iron and nails at the AMC or Ground Handling officers in the Apron or parking lot or maybe at other passengers if for example at that time there is also an aircraft service at the parking stand next to it. (source; results of interviews with AMC officers).

Overcoming this, AMC and Ground Handling officers work together, coordinate, confirm with the team, inform and remind each other about maintaining cleanliness. then the AMC officers and Ground Handling officers always remind them to maintain cleanliness around the apron. They also provide trash containers, but they are not visible and a bit far from the apron. From the results of the problem formulation that the researcher has analyzed, it can be concluded that the role of AMC officers in handling the FOD to improve Aviation Safety at Komodo Airport is very organized in accordance with the duties and SOP (Product Operational Standards) that apply at the Airport Operations Unit. for now also at the Komodo airport there has been no incident such as the types of FOD being sucked in by aircraft engines.

CONCLUSION

The AMC unit at Komodo Airport has a total of 10 officers, namely 1 unit head (kanit) and 9 staff. The AMC unit at Komodo Airport plays an important role in supporting flight safety, especially with regard to cleanliness around the apron. AMC officers also carry out their duties based on the Standard Operational Standards at Komodo Airport. Apron cleanliness is very important for a smooth flight. if you find any type of FOD scraped off asphalt, gravel, stagnant water due to rain in the parking stand area, grass, nails, iron, and so

on, then it is immediately cleaned, collected, and lifted by AMC officers and assisted by Ground Handling to pick up the trash and throw it into the trash bin that has been provided around the apron. The most common obstacle to the AMC unit at Komodo Labuan Bajo Airport is the frequent presence of gravel or scraped asphalt and nails, iron, luggage tags, and fruit skins that come from items when unloading luggage from the plane by Cargo officers. and they forgot to pick it up and throw it in the trash. Sometimes there is stagnant rainwater and freshly cut grass on the apron, and animals such as dogs sometimes get into the apron.

Suggestions for Apron Movement Control (AMC), namely the need to keep the apron clean so that it is free from FOD which can endanger flight safety. officers who work on the apron are advised not to leave their work tools such as nails, iron and so on on the apron to support flight safety and smoothness. Suggestions for future researchers: With this research, it is hoped that it will become a reference for researchers who will conduct further research on the same topic.

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