

Analysis ARFF Personel Knowledge In Efforts to Handle Emergencies In Waters.

I Made Sila Witama*, Wildan Nugraha

Politeknik Penerbangan Surabaya, Jl. Adi Sucipto, Sukodadi, Kec. Sukarami, Palembang City, 30154

**Corresponding Author. Email: wildan.nugraha@poltekbangplg.ac.id*

ABSTRACT

Kualanamu International Airport is one of the aviation service providers with an airport layout within a radius of 5Mile (± 8 Km) from the airport reference point which includes water areas. Airports are required to ensure the safety of passengers in carrying out airport operations by ensuring that ARFF units have personnel with appropriate qualifications effectively and efficiently in providing services that cover waters. The purpose of this research is to find out how the level of knowledge of sea rescue ARFF personnel and the efforts made by the ARFF unit at Kualanamu International Airport in handling emergencies in the waters. It can be seen from the conditions in the field based on the results of observational data collection, literature studies, and interviews that the knowledge of ARFF personnel related to sea rescue is still relatively low. Furthermore, to analyze the data that has been collected, the author uses Gap Analysis by determining the gaps or gaps that occur in the field. The results of the research based on the data collected by the author show that there is a gap from the current condition to the desired condition according to the applicable regulations, namely the need for a routine training program related to sea rescue for ARFF personnel in an effort to handle emergencies in the waters. The conclusion of this study is that ARFF personnel at Kualanamu International Airport need to design a training program.

Keywords: Sea rescue, ARFF, Airport.

1. INTRODUCTION

Airport is an area that includes land and waters with certain limits used as a place for aircraft to land and take off, get on and off passengers, loading and unloading goods and places for intra and intermodal transportation transfers, which are equipped with aviation safety and security facilities, as well as basic facilities and other supporting facilities according to Law No. 1 of 2009 concerning aviation. Along with the increase in airport operations and the development of air traffic, the higher the risk of accidents that occur. Therefore, it is necessary to supervise, train, and knowledge about aviation safety [1].

Airport safety is regulated in the Regulation of the Minister of Transportation of the Republic of Indonesia Number: PM 21 of 2015 concerning Aviation Safety Standards. Therefore, it is stated in the Regulation of the Director General of Hubud Number KP.002 of 2012 concerning Guidelines and Procedures for Civil Aviation Safety

Regulations that an airport is required to form a ARFF(Aviation Accident Relief and Fire Fighting) organization in the form of a ARFFunit to ensure safety at an airport according to the ARFFcategory and ensure that the ARFFunit has personnel with the appropriate qualifications and competencies, effectively and efficiently in providing services.

The duties and functions of the ARFFunit at an airport are regulated in the Decree of the Director General of Civil Aviation Number: PR 30 of 2022 concerning Technical and Operating Standards of Civil Aviation Safety Regulations, namely the provision of services in preventing, controlling, extinguishing fires, and protecting humans and goods threatened by fire hazards at facilities at airports, to saving the lives and property of an aircraft that experiences an incident (incident) or accident [2], [3], [4].

ARFF personnel have the responsibility of operating in the airport environment to outside the airport environment which includes land and water areas within a radius of 5Miles ($\pm 8\text{Km}$) from the airport reference point. Airport reference points are coordinates or reference points used as a benchmark to determine the location or position of an object and facilities within the airport regulated in the Regulation of the Director General of Civil Aviation No. KP 479 of 2015 concerning Procedures for Civil Aviation Safety Regulations Part 139-10 (Advisory Circular CASR Part 139-10) Emergency Management Plan Emergency Management Plan. Reference points are usually set at important points within the airport such as terminal centers, runways, aprons, navigation towers, and so on. Reference points Kualanamu International Airport is located in the airport navigation tower [5].

During the research process at the ARFFunit of Kualanamu International Airport, the author found problems that affect emergency services, namely about handling emergencies in waters or sea rescue. The author realizes the need for knowledge and ability about sea rescue for ARFFpersonnel by conducting training related to sea rescue for emergency handling in the waters of Kualanamu International Airport.

The formulation in this study: 1) What is the level of sea rescue knowledge of ARFFInternational Airport personnel on handling emergencies in the waters, and 2) How are the efforts made by the airport in increasing sea rescue knowledge by ARFFpersonnel.

The purpose of the research in this study is to know the level of sea rescue knowledge of ARFFpersonnel of Kualanamu International Airport on handling emergencies in the waters, and to know the efforts made by the airport in increasing sea rescue knowledge.

2. THEORY REVIEW

Data analysis is a data processing process with the main aim of finding useful information and can be used as a basis for decision making to solve a problem. It is also important to present the results of data analysis in an interesting and easily understood by others, usually through graphs or plots [6].

Safety is important in the aviation industry. This refers to the procedures and actions taken to maintain flight activities controlled passengers, crew and the aircraft itself [7].

Waters are a relatively large puddle owned and controlled by the state and used for the benefit, welfare of the community for transportation, fishing, and as a source of water for household life, as well as aquatic germplasm [8].

Efforts in rescuing drowning people, overcoming ship or watercraft accidents, providing emergency medical assistance in the waters, and protecting marine life as regulated in Law of the Republic of Indonesia Number 29 of 2014 concerning Search and Rescue.

Sea Rescue requires a rescuer who is able to dive and dive in the ocean area and is supported by expertise and techniques related to the sea area [9]. Drowning is an injury caused by submersion/immersion that can result in death in less than 24 hours. Drowning cases mostly occur in areas where the majority of professions are jobs that is around the waters [10].

Emergencies are situations outside of normal conditions that cause harm to anyone and have the potential to endanger human life, property, and the environment anywhere [11].

3. METHODS

3.1 RESEARCH DESIGN

In this study, researchers used descriptive qualitative research methods. Qualitative research is research by obtaining information and answers from the formulation of the specified problem. While descriptive emphasizes more description with involvement directly in the field when carrying out observations [12].

3.2 Data Collection

The data collection method carried out by the author is as follows: a) Observation by collecting Kualanamu International Airport layout data and then analyzing from the layout data which shows that within a radius of 5Miles ($\pm 8\text{Km}$) from the airport reference point covers

the water area, b) Interviews in this study were conducted to continue from the observation stage previously carried out based on airport layout data which aimed to explore more information in the problems raised by the author, namely about the knowledge and ability of ARFF personnel at International Airport in efforts to handle emergencies in the waters, and c) Literature Study in this research uses regulations that are a reference in its preparation, namely the Regulation of the Director General of Civil Aviation No: KP 479 of 2015 which regulates the Guidelines and Procedures for Civil Aviation Safety Regulations Part 139-10 (Advisory Circular CASR PART 139-10), Airport Emergency Management Plan[13].

According to the Decree of the Director General of Civil Aviation Number: PR 30 of 2022 concerning Technical and Operating Standards Civil Aviation Safety Regulations Aviation Accident Relief and Fire Fighting (PKP-PK) is a unit part of emergency management at airports equipped with ARFF vehicles and operational equipment including personnel and supporting materials provided at each airport to provide aviation accident relief and fire fighting.

Waters are a relatively large puddle owned and controlled by the state and used for the benefit, welfare of the community for transportation activities, fishing, and as a source of water for household life, as well as aquatic germplasm.

3.3 Data Analysis Techniques

The data analysis technique used by the author in the study is Gap Analysis. In the analysis of sea rescue knowledge of ARFF personnel in efforts to handle emergencies in waters, a comparison or gap between current conditions and desired conditions is carried out. In this context, Gap Analysis can be used in determining the efforts made in handling emergencies in water[14].

Research Design

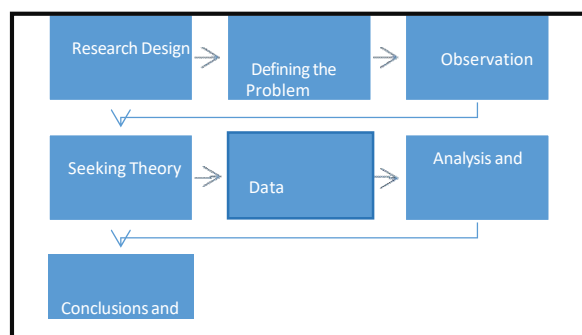


Figure 1. Research Design

The author describes the stages carried out in this research, namely in the implementation of this research,

of course, the author designs the research location with the parties involved in the preparation of this research.

3.4 Population and sample

Population to find out how the readiness of ARFF personnel at Kualanamu International Airport in handling emergencies in the waters and efforts made by the airport in increasing personnel knowledge in handling emergencies in the waters and samples were taken of 3 (three) personnel related to sea rescue and the capabilities of ARFF personnel.

4. RESULTS AND DISCUSSION

4.1 Design Results

Figures and tables should be placed either at the top or bottom of the page and close to the text referring to them if possible.

The results of the data that has been collected based on the data collection method used.

1) Observation

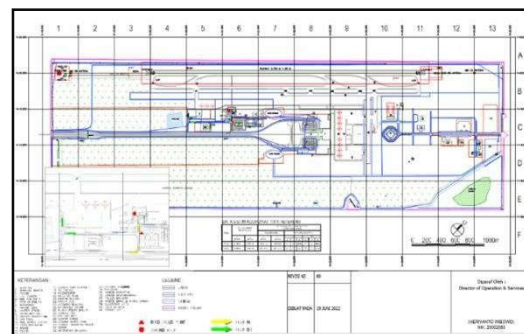


Figure 2. Kualanamu International Airport Grid Map

2) Interview

a. Level of knowledge

From interviews with the three speakers to get the results of the level of knowledge of ARFF personnel, it can be explained based on the reality that occurred in the field from the three speakers stated that the sea rescue knowledge of ARFF personnel at Kualanamu International Airport was relatively low

b. Constraints

Based on interviews with three resource persons with points knowing the obstacles in increasing sea rescue knowledge for ARFF personnel, it can be concluded that there are obstacles in facilities to support the course of training and training activities that have not been regularly scheduled. From the obstacles that occur, there will be efforts made by the

airport to increase sea rescue knowledge for ARFF personnel in efforts to handle emergencies in the waters that occur. The author will explain in the next interview point.

c. Efforts

In interviews with three resource persons by asking questions to find out the efforts made to improve the sea rescue knowledge of ARFF personnel in efforts to handle emergencies in the waters, it was found that the efforts made were to make sea-rescue-related training in a routine training schedule by delivering material to personnel through classroom sessions guided by Mr. Zulfan as the manager and had attended sea rescue training which Assisted by 3 personnel who have also attended Sea Rescue training when carrying out senior training in 2017.

d. Gap Analysis

Gap analysis is an instrument used in this study to analyze current conditions in the field and desired conditions based on applicable regulations which are explained in the Regulation of the Director General of Civil Aviation No. KP 479 of 2015 which explains the duties and responsibilities of ARFF personnel covering water areas within a radius of 5 Mile (± 8 Km) from the airport reference point.[15].

As for the explanation of how the gap between current conditions and desired conditions regarding the knowledge of sea rescue PKP-PK personnel at Kualanamu International Airport.

The current condition of Sea rescue knowledge of PKP-PK personnel at Kualanamu International Airport is still relatively inadequate in efforts to handle emergencies in the waters.

Desired conditions Sea rescue training program is carried out regularly for PKP-PK personnel in an effort to handle emergencies in the waters.

From the conditions that occur, there is a gap. It is necessary to form a routine training program related to sea rescue for PKP personnel at Kualanamu International Airport.

that occurs in current conditions with the desired conditions using the gap analysis method. The following can be described by the author of the problem solving:

1) Create an Exercise Program

The airport will create a routine training program related to sea rescue through classroom sessions with the delivery of material related to sea rescue guided by ARFF managers assisted by personnel who have carried out sea rescue training. Training materials related to sea rescue delivered by personnel who have carried out training or sea rescue training with material obtained during the training.

The reference material that can be delivered in this training program is based on the learning curriculum of the Palembang Aviation Polytechnic Aviation Fire and Rescue Study Program in the water rescue course taken by cadets in the fourth semester. The following author can describe learning materials related to sea rescue

a. Introduction to Relief in the Waters

Relief learning materials in periarian explain how as a rescue worker in water with water rescue skills that must be possessed by rescuers in water, namely knowledge, expertise, and skills in water rescue. The following can be described by the author regarding the abilities that must be possessed by a rescuer in the water.

b. Sea Survival Material

Sea survival learning materials explain how rescue workers in the water can survive in water areas in emergencies equipped with sea survival skills and supporting needs in the form of equipment and logistics

2) Equipment Procurement

In carrying out the sea rescue exercise, equipment is certainly needed to support the course of this exercise, and provide this supporting equipment if at any time an incident occurs in the water area within a radius which is still the task and responsibility of ARFF personnel operations.

There are facilities to support sea rescue activities. This facility is in the form of a building called "Launching Pad" in which there are vehicles for boat-type water equipped with supporting equipment.

4.2 Discussion

From the problems raised by the author regarding the lack of sea rescue knowledge in ARFF personnel at Kualanamu International Airport in an effort to handle emergencies in the water area, an analysis was carried out by formulating problems by collecting data from conditions that occur in the field by describing the gap



Figure 3. Sea Reader

(Source : Sea Reader & Rubber Boat Equipment Data Airport Rescue and Fire Fighting I Gusti Ngurah Rai International Airport)

CONCLUSION

This is based on the results of interviews conducted by the author with resource persons explaining that there are obstacles in the field that cause sea rescue knowledge for personnel to be less qualified because of training activities related to sea rescue that have not been programmed by the leadership. The obstacles that occur in the field are facilities in the form of water areas and equipment to support training activities related to sea rescue that are not yet available at the ARFFunit of Kualanamu International Airport. In response to this, the efforts made by ARFF Kualanamu International Airport in answering the second formulation of the problem are by forming a training program related to sea rescue in the classroom session delivered by Mr. Zulfan as Manager of ARFF who is assisted by personnel who have carried out sea rescue training.

SUGGESTION

The advice that the author submits in this study is to increase the knowledge and ability of sea rescue ARFF personnel in efforts to handle emergencies in waters by optimizing training programs related to sea rescue. Given that the location of Kualanamu International Airport covers water areas within a radius of 5Mile (± 8 Km) from the airport reference point which is still in the duties and operational responsibilities for ARFFpersonnel.

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