



Analysis of Sport Tourism Potential, Occupational Safety and Health in Tandem Paragliding

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Abstract

This research aims to analyze the level of tourism security and safety in the tandem paragliding aspect in the Kemuning village area. The problem that arose was that there was a tandem paragliding accident, namely a tourist fell on Kemuning Hill, in this accident there was no insurance for tourist accidents. The research uses a mixed method model by taking into account the Kemuning paragliding tourism environment. Analysis of tandem paragliding tourism potential using SKKNI no. 157 of 2019 for tandem paragliding aerospace scouting. Data management uses SPSS 23, and the respondents studied are Kemuning paragliding tandem managers, paragliding tandem pilots, tourists, and parties concerned with the Kemuning tourism tandem. Located in Segoro Mountain, Kemuning Village, Ngargoyoso District, Karanganyar Regency. The research results show that tourism safety data for tandem paragliding in Kemuning village is in the Very Suitable category. There needs to be a new sports tourism sector that supports the main tourism so that it can increase community income and increase the health of tourism visitors.

INTRODUCTION

The tourism industry has an important role in improving regional development nationally in Indonesia. Currently, the tourism industry is a leading aspect to improve the regional economy. In 2023, the increase in the creative economy sector and tourism in the regions began to increase with the existence of new rides or places that increased in each region (Kemenparekraf, 2024). Tourism that develops in the region, can change a lot of people's economic improvement, reduce the number of poverties, create jobs, and increase development in the region. Indonesian tourism is the fastest growing by ranking 9th in the world, third in Asia, and number one in the Southeast Asia region. The achievement in the tourism sector was also recognized by a media company in the UK, The Telegraph, which listed Indonesia as "The Top 20 Fastest Growing

Travel Destinations". Efforts to increase tourist interest need to improve management so that tourists who come can feel comfortable, safe, and guaranteed safety and security.

The World Tourism Organization in 1991 recommended efforts that can be implemented for tourism safety, namely with each country to develop a national policy in the field of tourism safety that is carried out side by side with efforts to prevent risks to tourists. An important factor of security and safety in the workplace in Indonesia is found (Law 1970 number 1 article 1 paragraph 1 contains "the workplace is any room or field, closed or open, mobile or fixed, where labor works, or which is often entered by labor for a business and where there are sources or sources of danger including places". In the law, some efforts can be made to carry out security and safety in the workplace, one of which is in tourism. Tourism destinations

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that have a high risk of safety and security of tourists must pay attention to factors that will occur such as the physical environment and the non-physical environment such as the presence of animals, trees, or other things.

The territory of Indonesia, which consists of islands where the land conditions in the islands are generally mountainous and hilly, has great potential for the development of tandem paragliding tourism. The nature that is spread out with stunning scenery is another potential that is worth developing. The need for land at the location of the beginning and end of the activity that is minimal but beautiful and natural is a basic requirement for tandem paragliding tourism, while free and clean air is an open vehicle for this activity to take place. As one of the tourism products, tandem paragliding tourism is one of the opportunities as a source of foreign exchange, which in turn requires the support of Human Resources who have standardized competency abilities.

One of Indonesia's main areas of attention is the growth of sports tourism there. Through internet trends and the promotion of tourism hotspots, like the F1 Powerboat World Championship event on Lake Toba, efforts have been undertaken to maximize regional economic development (Widianingsih et al., 2023). There are known obstacles to entering the sports sector, which includes sports tourism, including a lack of funding, expertise, experience, and human resources (Julianti P et al., 2023). Travel habits have also been impacted by the COVID-19 outbreak, with travelers now gravitating toward outdoor pursuits and sports tourism. It has been determined that Gianyar Regency in Bali has the potential to grow its sports tourism industry, which when paired with cultural tourism, can make the area stand out (Agustin et al., 2022). To improve the sports tourism experience, it is necessary to address the issues around service quality and satisfaction in the organization of sporting events (Mulya, 2022). Overall, even though Indonesia has prioritized the growth of tourism, there are still certain aspects that need to be addressed, like environmental sustainability, infrastructural development, and risk management related to terrorism (Koerner et al., 2023).

Paragliding is a type of free-flying sport

that involves using cloth wings, commonly known as parachutes, to fly. It utilizes the thrust generated by the wind during takeoff and lands using the feet (Zulafah et al., 2022). The performance of a paraglider is affected by factors such as wing section drag, intake drag, and the deformation of the wing between ribs (Babinsky, 1999). Mathematical modeling and simulation have been used to study various flying situations of a paraglider, including constant headwind/tailwind, variations in headwind and tailwind combined with upwind, varying pilot mass, and parameters in the form of interval quantities (Nguyen et al., 2021). Parachutists, who engage in skydiving, have been found to have varying temperament features, need for stimulation, and risk-taking tendencies (Boldak & Guszowska, 2013). Paragliding flights have been shown to have an impact on adrenaline, cortisol, and insulin levels, as well as heart rate, with experienced pilots exhibiting different physiological responses compared to first-time passengers (Çalik et al., 2021).

Paragliding is the sport of free flying using fabric wings that take off with the feet for recreational or competition purposes. FASI is the parent organization of paragliding where PORDIRGA is under the auspices of FASI. The wind that is used as a source of lift that causes this parachute to float high in the sky consists of two kinds, namely the rising wind that hits the slope and the rising wind caused by thermal. By utilizing both sources, pilots can fly very high and reach long distances. Paragliding is unique because everything is done without the use of machines, only solely utilizing the wind. Tandem paragliding uses a wing or umbrella large enough to accommodate two people, a pilot or instructor at the back as a controller and a passenger at the front. Tandem paragliding is a recreational paragliding sports tour conducted by two people where one person is the passenger and the other is the pilot/controller. Central Java has a geographical area rich in hills and mountains, therefore Central Java has many sites that can be used for tandem paragliding including Kemuning Karanganyar Regency, Ungaran Semarang Regency, Tembalang Bukit Meteseh Semarang, Bukit Lengkong and Kahyangan Skyline Wonosobo Regency, Purwodadi, Wonogiri, and Batang.

These areas have become paragliding flying sites carried out by local communities in addition the area already presents a place of nature tourism, one of which is the tandem paragliding Kemuning Pesona Karanganyar Regency. But the tandem flying which is commercial in nature is only carried out at the Kemuning flying site in Karanganyar Regency. The latest news from (Soloraya, 2024), that at the Kemuning Paragliding Tandem tourist spot, there was a flight failure accident on Wednesday, July 5, 2023, which resulted in tourist victims falling and being seriously injured from paragliding. From the Karanganyar Dispora data, the incident was purely an accident and from the Kemuning Paragliding Tandem manager there is no safety insurance to cover tandem paragliding tourists. From the initial research, the place already has commercial flying, the managerial is not optimal, the supporting facilities and infrastructure are quite adequate, there is no overall organizational SOP, and insurance for tandem paragliding tourists does not exist. With the standardization of tandem paragliding management by using the SKKNI regulation criteria no 157 of 2019 aerospace guiding tandem paragliding. Tourism management is currently one of the important aspects of regional tourism development. In this management, it is expected to provide security and safety for tourists so that accidents

do not occur.

METHOD

Mixed methods is a research method that combines or combines quantitative methods with qualitative methods to be used together in a research activity, so that more comprehensive, reliable, objective, and valid data are obtained. Convergent Parallel Mixed Methods Design. In this approach, researchers collect quantitative and qualitative data simultaneously, analyze the results of both data separately, and then compare the results to see whether the research findings support each other or not (Creswell & Hirose, 2019). The main assumption of this approach is that qualitative and quantitative data will provide different types of information. By different types of information, we mean the detailed views of informants obtained qualitatively and the scores on the research instruments quantitatively. The results of the qualitative and quantitative approaches should lead to the same conclusions. The purpose of this method design is to get a more complete understanding of the two types of data, prove the results of different methods, and compare several levels in a system.

The data collection model about the potential of tandem paragliding in Central Java is carried out using a quantitative approach, namely by using a closed Google

Table 1. Indonesian National Work Competency Standard Number 157 of 2019

No.	Indicator
1	Prepare Administration and Information
2	Performing traveler identification
3	Apply flight regulations
4	Manage Equipment and Supplies
5	Applying Site and Weather Science
6	Planning a paragliding tandem flight
7	Apply tandem flight risk management
8	Communicating with Travelers
9	Perform tandem paragliding flight techniques
10	Perform emergency handling during tandem flight
11	Make a traveler satisfaction analysis (feedback)
12	Make a tandem paragliding flight report

Resources: (SKKNI, 2019)

Form Questionnaire. While about the direct description of the potential place of tandem paragliding in general, this study uses a qualitative approach using an open questionnaire interview (open-ended questionnaire). Therefore, this mixed research design uses a strategy of using two approaches (mixed methods), namely a convergent parallel strategy to complement the information obtained about existing conditions with constraints at the tandem paragliding location based on SKKNI No. 157 of 2019 concerning tandem paragliding aerospace guiding. A procedure in data collection, where only part of the population is taken and used to determine the desired properties and characteristics of a population is called a sample. The purpose of determining the sample is to obtain information about the object of research by observing part of the population, namely tourism managers, tandem paragliding pilots, and tandem paragliding tourists.

In this study, researchers used a case study type of research. The research site is Kemuning paragliding tandem in Segoro Gunung, Kemuning Village, Ngargoyoso District, Karanganyar Regency, Central Java Province. The research subjects were 1 manager, 4 tandem paragliding pilots, and 12 tandem paragliding tourists. The instruments in this study include observation by recording thoroughly and finding out about the analysis of the potential of tandem paragliding tourism by using SKKNI regulation number 157 of 2019 concerning the Application of the Indonesian

National Work Competency Standards in the field of aerospace tourism paragliding flying sites in Kemuning Karanganyar Regency. The research instruments used in this research are observation, interviews, and documentation by taking a direct approach to the flying site area. The data analyzed in this study are primary data from research findings; data collection techniques in the research that the author carries out are two types of techniques, namely qualitative techniques (case studies) followed by quantitative techniques (experiments). Strategy is a comprehensive master plan that explains how to achieve all the goals that have been set (Maryam, 2018).

RESULT AND DISCUSSION

The potential Tandem Paragliding tourism sport in Kemuning is interesting because Tandem Paragliding has its uniqueness, namely using the power of the wind to be able to float. Geographically, the place in Kemuning has sufficient wind potential to carry out tandem paragliding tourism sports. The paragliding tandem sport also requires high adrenaline because the implementation is in a high place. The place of tandem paragliding Kemuning also has a very beautiful and attractive natural beauty, which makes it one of the factors of attraction for tourists to try tandem paragliding. The results showed that the potential of tandem paragliding tourism in the Kemuning hills of Karanganyar Regency is in the very suitable category (Score 85) this is supported by 8 indicators that have very



Image 1. Kemuning Paragliding Tandem Spot

suitable criteria and only 4 indicators that show suitable criteria to see the distribution of this data can be seen in the table and graph below:

The table above shows that the potential of tandem paragliding tourism at Kemuning Hill in Karanganyar has very suitable criteria (Score 85) this is indicated by 11 indicators that have very suitable criteria and only 1 indicator that has suitable criteria, namely making a tandem paragliding flight report. Judging from the results of qualitative data reduction, the results of the analysis are not much different, meaning that the 5 indicators are indeed in the criteria Not suitable and doubtful, among others:

1. The manager has prepared adequate tandem Paragliding Flight Administration and Information, but there are no tandem flight documents. as a result of incidents that have been experienced
2. Has not yet conducted tourist identification but is not yet complete and detailed
3. Have implemented paragliding flight regulations in a simple manner
4. Has not yet managed Paragliding Equipment and Supplies optimally, because umbrellas and equipment are carried by each of them.
5. Pilots are starting to apply knowledge about Paragliding Flight Locations and Weather through YouTube facilities and other social media
6. In planning tandem paragliding flights, the manager has difficulty when there are tourists, because the weather and wind direction of the Kemuning Karanganyar hill are relatively unstable, especially in the rainy season. Tourists often wait for laminar winds to be ready to take off.
7. Already implemented risk management for tandem paragliding flights, including communication with health centers and hospitals.
8. Communicating with Tourists runs quite well considering that the average tourist visiting is a domestic tourist.
9. Most pilots have PL 2 to tandem licenses so that the indicators for carrying out tandem paragliding flight techniques are well mastered.
10. Performing emergency handling during tandem paragliding flights pilots have mastered and are good at doing this indicator.
11. Analyzing tourist satisfaction (feedback) is done, this indicator in writing usually

Table 2. Analysis of the Potential of Tandem Paragliding Tourism at Kemuning Hill, Karanganyar Regency

No.	Indicator		Criteria
1	Prepare Administration and Information	83,7	Very suitable
2	Performing traveler identification	87,3	Very suitable
3	Apply flight regulations	88,1	Very suitable
4	Manage Equipment and Supplies	88,9	Very suitable
5	Applying Site and Weather Science	85,9	Very suitable
6	Planning a paragliding tandem flight	84,4	Very suitable
7	Apply tandem flight risk management	88,0	Very suitable
8	Communicating with Travelers	86,7	Very suitable
9	Perform tandem paragliding flight techniques	87,1	Very suitable
10	Perform emergency handling during tandem flight	88,7	Very suitable
11	Make a traveler satisfaction analysis (feedback)	84,0	Very suitable
12	Make a tandem paragliding flight report	85,9	Suitable
Average		85	Very suitable

by direct question and answer, and recording.

12. Make a tandem flight paragliding report, in the form of direct interviews and recorded as material when evaluating.

The advantage of the Bukit Kemuning Karang Anyar flying site is has all the ideal potential for a tandem paragliding flight. It can be seen from the integration with other destinations is very supportive: Camping Ground, river tubing tourism, jeep adventure, selfies of natural scenery, also as a paragliding training ground for Central Java athletes becomes a special sight for tourists. The results of qualitative research show that the tandem tour of Kemuning Hill in Karanganyar includes a very ideal area for tandem flying because this area is integrated with other tourist activities, among others: 1) Kemuning jeep adventure tour, 2) Kemuning Sky Hill (glass bridge), 3) camping ground Sumilir Valley, 4) Sua Foto, 5) Suku Temple, 6) Kali Pucung River tubing, 7) Kemuning tea garden etc. So that the existence of tandem paragliding provides additional destinations that are more interesting. Based on SKKNI No. 157 of 2019 tandem paragliding tourism in Kemuning has several findings, among others:

1. Managing equipment and equipment in the very suitable category (Score 88.9) shows that equipment and management of flying equipment are carried out periodically. The centralized location of equipment storage in one post makes it easier for managers to carry out maintenance. Given that paragliding umbrellas have flying hours that must be taken seriously.
2. Implementing tandem flight risk management: The tandem paragliding community in Kemuning cooperates with the local health center to anticipate when a flight incident occurs so that the risk of a more severe accident can be well anticipated.
3. Setting up administration and information: Kemuning Hill is located far from BTS (Base Transceiver station), so access to outgoing communication is somewhat hampered, so information services are carried out manually.

Urban security, government marketing, business sponsorship, and mass transit planning are the most important criteria for sustainable sports tourism development, with local festivals being the most influential factor (J.-J. Yang et al., 2020). Six factors influencing tourism in small-scale sports events are communication, staff, electronic word-of-mouth, destination image, satisfaction, and future intentions (Vegara-Ferri et al., 2020). The top three attributes influencing sustainable sports tourism are disease prevention and treatment, local social welfare and protection, and sports diversity (C.-C. Yang et al., 2021). Personality, push factors like socialization and pull factors like access, affordability, and other attractions significantly influence sports tourists' satisfaction and loyalty to destinations and teams (Min et al., 2023). Uncertain and unsafe environments diminish people's willingness to visit destinations, which can negatively influence sports tourism (Nicolau, 2021). Sports events affect the tendency of citizens towards entrepreneurship, which in turn influences sustainable tourism development through sports events (Tsekouropoulos et al., 2022). Sports tourism helps build a unique identity closely linked to sustainability goals, highlighting natural and cultural beauty and improving destinations' profiles (Morfoulaki et al., 2023).

Risk management in sports tourism involves identifying and addressing various risk issues that may arise during active sports tourism events. These risk issues can be categorized into areas such as safety, financial, environmental, technical equipment, operations, human resources, political, legal, tourist behavior, and relationships (Zhang et al., 2023). Tourism companies' risk exposures can be identified based on textual risk disclosure of financial statements, helping stakeholders develop reasonable and timely risk management strategies (Li et al., 2020). Sports enterprises can use decision trees and data mining to assess risk and predict possible risks, ensuring information security and financial risk management (Zhao, 2021). Risk management in sports tourism involves a planned process to manage active crises, allowing organizations to adapt more easily to crises (TSAPOVA et al.,

2021). Optimal training and safety management can reduce sports injury risk by addressing factors like climatic characteristics, equipment cleaning, and maintenance, and public safety (Han & Jia, 2023). Risk management is seen as a crucial aspect of managing operations in the tourism sector, allowing for the assessment of vulnerabilities and influencing decision-making processes.

CONCLUSION

From the results of the study, it can be concluded that based on the Analysis of the Potential of Tandem Paragliding Tourism Based on SKKNI No. 157 of 2019 concerning Tandem Paragliding Aerospace Guidance in Bukit Kemuning Karanganyar, the criteria are very suitable (Score 87). this is indicated by 11 indicators of SKKNI No. 157 of 2019 having very suitable criteria and only 1 indicator that has suitable criteria, namely making tandem paragliding flight reports. Improve service to tourists and sport tourism. There needs to be a new sports tourism sector that supports the main tourism so that it can increase community income and increase the health of tourism visitors.

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