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# Aviation and Tourism Development in Zambia: The Case of Mfuwe International Airport and South Luangwa National Park

#### Chifwanti Zulu

Master of Business Administration General, Institute Distance Education, University of Zambia, Zambia Email: chfwntzl80[at]gmail.com

Abstract: Aviation infrastructure plays a pivotal role in tourism development, particularly in remote wildlife destinations where air transport provides the most efficient and, in some cases, the only reliable means of access. Mfuwe International Airport (MIA), the primary gateway to South Luangwa National Park (SLNP), facilitates connectivity for both international and domestic tourists. It also supports tourism-dependent economic activities. Guided by three objectives: to explore the effects of aviation connectivity on tourist arrivals at MIA, to assess the economic benefits of air travel in promoting tourism in SLNP, and to identify challenges and opportunities for enhancing aviation's role in tourism promotion, this study investigates aviation's contribution to tourism growth using a design based on stakeholder interviews, document analysis and field observations. The findings show that aviation enhances destination accessibility, improves visitor experience and stimulates local employment and business activity. Despite its strategic importance, MIA operates below potential due to constraints such as an undersized terminal, limited navigational technology, insufficient airline connectivity and pronounced seasonality in tourist arrivals. The study concludes that targeted infrastructure investments, enhanced institutional coordination and strategies to diversify tourism demand across seasons are critical for maximising MIA's long-term contribution to tourism development and strengthening Zambia's competitiveness as a premier wildlife destination.

Keywords: Aviation, Tourism, Air Connectivity, Mfuwe International Airport, Economic Impact

#### 1. Introduction

Transport infrastructure is a fundamental determinant of socio-economic development, facilitating mobility, connectivity, and access to key markets and services. For Zambia, a land-linked nation characterised by extensive rural areas, efficient transport systems are especially critical for enabling tourism and supporting economic diversification. Tourism has increasingly become a strategic sector within Zambia's economy, contributing significantly to employment creation, community livelihoods, and foreign exchange earnings. Wildlife tourism attracts high-value international visitors and has positioned destinations such as South Luangwa National Park (SLNP) as premier safari locations in Africa.

Mfuwe International Airport (MIA), located in Mambwe District, serves as the principal aviation gateway to SLNP, and thus plays an essential role in shaping tourist access and the overall visitor experience. The airport facilitates connections for both domestic and international travellers, providing essential infrastructure that underpins tourism operations, such as access to lodges, safari operators, and other local service providers. Its strategic location reduces travel time, enhances convenience, and increases the attractiveness of Zambia's wildlife tourism offerings.

Despite this strategic importance, MIA faces longstanding infrastructural and operational challenges. The terminal is undersized, navigational technology is limited, and airline connectivity is constrained. These limitations directly impact visitor experience, reduce operational efficiency, and restrict the growth potential of regional tourism. Additionally, the seasonal nature of wildlife tourism creates fluctuations in passenger volumes, which challenges effective resource

planning and service delivery. This study therefore seeks to assess the role of aviation in promoting tourism at MIA, identify the challenges inhibiting its effectiveness, and evaluate strategies to enhance its contribution to tourism development, with a particular focus on operational, infrastructural, and policy dimensions.

#### 2. Literature Review

Transport infrastructure is widely recognised as a catalyst for economic development, reducing travel costs and enhancing market access. Effective coordination between airlines, tourism agencies and the hospitality industry has been associated with substantial increases in tourist arrivals in various global regions. For example, coordinated airline—tourism partnerships in Southeast Asia led to significant increases in regional tourist arrivals over a five-year period [1]. Conversely, inadequate transport systems in developing countries often constrain tourism growth and exacerbate regional inequalities [2].

In the tourism context, aviation enhances destination accessibility and influences international competitiveness. Airports function not only as transport hubs but also as critical touchpoints that shape visitor perceptions. Studies in island destinations such as Mauritius and Seychelles demonstrate that airport modernisation and expanded connectivity significantly boost international arrivals and extend tourist stays [3].

However, many African countries face persistent aviation challenges, including limited investment, high operational costs, institutional fragmentation and seasonal variability in tourist demand [4]. Remote airports often struggle to attract

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additional airline services due to perceived commercial risks, limited skilled labour and weak supporting infrastructure.

The aviation-tourism interaction framework emphasises the cyclical relationship between connectivity, tourist arrivals and economic reinvestment. Improved aviation services stimulate tourism flows, generate revenue and create opportunities for reinvestment into infrastructure. Conversely, poor aviation infrastructure limits tourism development and broader economic benefits.

#### 3. Problem Definition

Although MIA is strategically positioned as the gateway to one of Zambia's most important wildlife destinations, its infrastructure and operations remain limited relative to the demands of tourism growth. The terminal building is undersized and outdated, with inadequate seating, check-in capacity, and baggage handling systems, reducing operational efficiency and negatively affecting visitor experience during peak tourist periods. The airport also lacks advanced navigational aids such as instrument landing systems, which restrict operations during adverse weather and at night, limiting airline scheduling flexibility and reducing reliability.

Airline connectivity remains constrained, with limited scheduled flights and seasonal routes that exacerbate fluctuations in tourist arrivals. The pronounced seasonality of tourism in South Luangwa results in congestion during peak periods and underutilisation during low seasons, which in turn limits airport revenue and constrains opportunities for reinvestment in infrastructure. Seasonal bottlenecks also affect the performance of lodges, safari operators, and transport providers, highlighting the interdependence of aviation and tourism services.

Institutional challenges further compound these issues, as responsibilities for airport development and management are dispersed among Zambia Airports Corporation Limited (ZACL), the Civil Aviation Authority (CAA), and the Ministry of Tourism. This fragmentation results in inconsistent prioritisation, slow decision-making, and misaligned planning between aviation and tourism stakeholders [4]. Consequently, although aviation is central to tourism promotion at Mfuwe, existing constraints hinder the airport from realising its full potential in supporting tourism growth, limiting both economic and social benefits for the surrounding communities [5] [6].

#### 4. Methodology

This study employed a qualitative research design, situated within the interpretivist paradigm, allowing for an in-depth exploration of stakeholder perceptions regarding aviation and tourism development. Purposive sampling was used to select participants with specialised knowledge of airport operations, tourism management, and aviation policy implementation. Participants included officials from ZACL, staff from the CAA, representatives from the Ministry of Tourism, lodge operators, tourism association leaders, and airline or charter operators servicing MIA.

Semi-structured interviews generated rich qualitative insights into the status of airport infrastructure, operational challenges, stakeholder coordination, and the implications of aviation for tourism development. Secondary data, including airport operational reports, tourism statistics, and academic literature, were reviewed to supplement interview findings and provide contextual depth. Field observations of airport operations during peak and off-peak periods were also conducted to corroborate stakeholder insights.

Thematic analysis was employed to systematically analyse the data, with recurring patterns organised into major themes that reflected the study objectives. These themes included the role of aviation in tourism facilitation, infrastructural limitations, operational inefficiencies, airline connectivity constraints, seasonality, and implications for regional tourism development. Ethical considerations were strictly observed, including voluntary participation, confidentiality, and anonymity. The combination of primary and secondary data ensured triangulation, enhancing the reliability and validity of the findings.

#### 5. Results

The study found that aviation at MIA plays a crucial role in promoting tourism by providing efficient access to SLNP, facilitating visitor arrivals, and supporting the economic activities of tourism operators. Stakeholders highlighted that MIA enables international tourists to reach remote lodges quickly, reducing travel time and increasing the attractiveness of the destination. As a tourist respondent noted, "If there weren't multiple daily flights into Mfuwe, I honestly don't think we would have chosen to come. The frequent access made it an easy decision." This supports the study's first objective on the effects of aviation connectivity on tourist arrivals.

The airport's operations also support local employment, as tourism revenue generated through visitor arrivals sustains hospitality services, guides, transport operators, and ancillary businesses. Respondent 2 (Tourism Operator) emphasised this by stating, "Most of our business depends on people landing here. When flights increase, everyone, from lodge staff to local traders, feels the impact." This aligns with the second objective on assessing economic benefits.

MIA was reported to contribute indirectly to the growth of small-scale enterprises, including handicrafts and local markets, highlighting its broader socio-economic significance. Furthermore, the airport shapes visitor satisfaction by serving as the first point of contact.

Despite these positive contributions, significant constraints limit the airport's effectiveness. The terminal is inadequate for the current demand, lacking sufficient seating, check-in counters, and modern amenities, which affects comfort and service quality. Respondent 1 further commented, "The airport is charming but too small. During busy times it feels overcrowded, and you can't even find a place to sit."

Stakeholders also raised concerns about operational limitations. The absence of advanced navigational technology restricts the ability to operate under certain conditions, while

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airline connectivity remains limited in both frequency and seasonal consistency. One aviation professional highlighted, "We lose potential flights during the off-season because the infrastructure cannot support consistent operations."

The pronounced seasonality of tourism results in congestion during peak months and reduced operational efficiency during off-peak periods, constraining revenue generation and limiting the airport's capacity for reinvestment in infrastructure. Stakeholders also emphasised that fragmented institutional responsibilities and weak poor coordination delays infrastructure upgrades and tourism-related strategies. As Respondent 2 stated, "Aviation and tourism stakeholders must engage in joint planning efforts. Right now, decisions are too isolated, and improvements take too long."

#### 6. Discussion

The results reinforce the central role of aviation in enhancing tourism accessibility, economic activity and destination appeal. Modern, efficient airports improve visitor experience and increase market competitiveness, as shown in Mauritius and Seychelles, where modernised aviation infrastructure led to measurable increases in tourist arrivals [3]. However, MIA's infrastructural limitations, particularly the outdated terminal and limited navigational technology, constrain operational efficiency and influence visitor perceptions.

Seasonality remains a structural challenge. Concentrated peak-season arrivals overwhelm existing infrastructure, while low off-season volumes reduce financial capacity for maintenance and expansion. Addressing these issues requires integrated planning, targeted investment and improved coordination between aviation and tourism authorities. Strengthening these linkages can generate sustained tourism growth, enhance local livelihoods and reposition Zambia competitively.

#### 7. Conclusion

Aviation plays a critical role in promoting tourism, particularly in remote wildlife destinations such as SLNP. This study has demonstrated that MIA serves as a key enabler of tourism by facilitating access for both domestic and international visitors, supporting local economic activities, and shaping the overall visitor experience [7–8]. The airport's operations directly contribute to the growth of the hospitality sector, local employment, and ancillary businesses, underscoring its significance beyond mere transportation.

However, the research also highlights that MIA's potential is constrained by infrastructural limitations, including an undersized terminal, limited navigational aids, and inadequate facilities to manage peak and off-peak tourist flows. Airline connectivity is restricted, and the pronounced seasonality of tourism exacerbates operational and revenue challenges. Fragmented institutional responsibilities further limit the ability to implement coordinated strategies that align aviation development with tourism growth objectives [4–6].

To strengthen the role of aviation in promoting tourism, it is essential to invest in terminal modernisation, enhance navigational and operational infrastructure, expand airline connectivity, and promote year-round tourism activities to mitigate seasonal fluctuations. Institutional coordination and strategic planning between aviation and tourism stakeholders are equally critical to ensure sustainable development.

In conclusion, MIA has a substantial impact on tourism promotion in Zambia, but realising its full potential requires a comprehensive approach that combines infrastructure investment, operational improvements, policy alignment, and innovative tourism strategies. By addressing current constraints and leveraging opportunities for growth, MIA can continue to support sustainable tourism development, enhance regional economic benefits, and strengthen Zambia's position as a premier wildlife tourism destination in Africa.

#### 8. Recommendations

Targeted interventions are required to enhance aviation's role in promoting tourism at MIA. Terminal modernisation is critical to improving passenger experience, including upgrading check-in systems, expanding seating, enhancing baggage handling, and providing commercial and service amenities. Investment in advanced navigational aids and weather monitoring systems would increase operational reliability, allowing for night and adverse weather operations. Efforts to expand airline connectivity, including year-round scheduling and the introduction of new routes, would improve accessibility for international and domestic tourists.

Institutional coordination should be strengthened to align airport management with tourism development goals. A collaborative framework involving ZACL, CAA, the Ministry of Tourism, and tourism operators would support integrated planning, streamline decision-making, and ensure that infrastructure investments meet the needs of the tourism sector. Strategies to mitigate the effects of seasonality, such as promoting off-peak tourism and cultural experiences, would balance demand, optimise operational efficiency, and enhance revenue streams. Improved data collection and integration between aviation and tourism stakeholders would further strengthen strategic planning and evidence-based decision-making. Additionally, fostering partnerships with international aviation organisations could bring technical expertise, funding, and best practices to enhance operational standards.

#### 9. Future Scope

Future research should adopt quantitative methods to assess the economic impact of aviation on tourism, including effects on employment, revenue generation, and growth in local businesses such as retail and logistics. Comparative studies with other African wildlife tourism airports would provide insights into best practices for enhancing aviation infrastructure and promoting tourism. Additional research should explore sustainable financing mechanisms for airport development and long-term strategies for expanding airline connectivity to remote destinations such as Mfuwe, thereby strengthening the link between aviation and tourism growth. Research on integrating digital technologies, such as automated check-in systems, predictive scheduling, and tourism analytics, could also provide innovative solutions to operational challenges.

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#### **Author Profile**



**Chifwanti Zulu** holds a Bachelor of Mass Communication from the University of Zambia (2016). He worked in telecommunications with Vodafone Zambia and Zamtel (2016–2018). He is an MBA

candidate at the University of Zambia and currently works in Customer Service at Zambia Airports Corporation Limited.