

Bird Strikes and Wildlife Measures at Southern Sudan Associated Advocates (SSAA), Juba International Airport in Juba, South Sudan

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Abstract - This study was set to establish the Bird strikes and wildlife measures at southern Sudan associated advocates (SSAA), Juba International Airport in Juba, South Sudan. It was guided by the following specific objectives, that included determining the (i) to identify the arrangements for assessing birds and wildlife hazards; (ii) To establish the arrangements for implementing birds and wildlife control programmes. (iii) Establish whether there is a relationship between bird strikes and wildlife measures at southern Sudan associated advocates (SSAA), Juba International Airport In Juba, South Sudan . The study adopted a descriptive survey design .it used questionnaires, face to face interviews. The target population was 220 from which a sample size of 145 was derived. Findings revealed that respondents between 25-35 year were 32.1%, female respondents dominated the study (64.3%); married were (53.6%) other marital status category; masters certificate holders dominated the study 50% and on occupation others dominated the entire sample size with 54.2%. The findings on Inspection operations revealed that eight items were measured and rated as follows; Maintenance requirements (Average mean=2.43, std .99116) Maintenance of pavements (Average mean=2.50, std 1.02221), Inspection security dilemma (Average mean=2.64, std. 1.08997) Friction Testing (Average mean=2.41 std. .99248), Pavement markings (Average mean=2.18 std. 1.03375) Electrical Systems (Average mean= 2.25 std. .85146) and AG L Maintenance (Average mean=2.49 std .63617) with an overall mean of 2.41).

The findings on Inspection revealed that seven items were measured and rated as follows; Public participation and Democracy (Average mean=3.06, std .74603) Non-paved areas in the strip(Average mean=2.83, std .59523), Executive and rule of Law (Average mean=2.92 std. .70057) Traditional & customary arrangement (Average mean=2.78 std. .68791), Transparency and accountability (Average mean=2.80 std. .72664) Road maintenance

(Average mean= 2.81 std. .59522) with an overall mean of 2.87). Regarding Inspection operations, it was recommended that; Equitable sharing of resources, Strengthening local administration, Empowerment of traditional leadership, Government to treat all communities equally, Minister visit all communities regularly, Provision of judges and public prosecutors; construction of courts in the counties, Upgrading of unqualified employees through capacity-building, compensation of salaries to employees. While issues of inclusive Inspection and equity are important drivers of operations, these statements highlight complex and in some cases long-standing Inspection-related issues which largely went beyond the mandate of the peace conference. Political accommodation approach tackles Inspection issues directly.

Regarding Inspection it was recommended that; even passengers who normally receive expedited screening passengers, may at times receive a pat-down. A pat-down may include inspection of the head, neck, arms, torso, legs, and feet. This includes head coverings and sensitive areas such as breasts, groin, and the buttocks.

It is a requirement that the Runway and Taxiways are inspected at regular intervals to ensure that the surface complies with the criteria for use by aircraft. The Runway pavement is required to be in an acceptable state of repair, with access and egress unimpaired and to be free from FOD and wildlife.

TSA incorporates unpredictable security measures, both seen and unseen, to accomplish our transportation security mission.

Security measures begin long before you arrive at the airport. TSA works closely with the intelligence and law enforcement communities to share information. Additional

security measures are in place from the time you get to the airport until you get to your destination.

TSA adjusts processes and procedures to meet the evolving threat and to achieve the highest levels of transportation security. Because of this, you may notice changes in our procedures from time to time.

TSA counts on the traveling public to report unattended bags or packages; individuals in possession of a threatening item; and persons trying to enter a restricted area or similar suspicious activities at airports, train stations, bus stops and ports. If You See Something, Say Something™. Report suspicious activity to local law enforcement.

Passenger screening at the airport is part of TSA’s layered approach to security to get you safely to your destination. TSA’s screening procedures are intended to prevent prohibited items and other threats to transportation security from entering the sterile area of the airport and are developed in response to information on threats to transportation security.

Keywords: Bird Strikes and Wildlife Measures.

I. INTRODUCTION

This study was set to establish the Bird strikes and wildlife measures at southern Sudan associated advocates (SSAA), juba international airport in juba, South Sudan. It was confined to presence of wildlife in the aerodrome vicinity poses a serious threat to aircraft. Wildlife strikes impact greatly on safety of passengers as well as airline business and has to be well managed to ensure safety.

The Sudan Civil Aviation Act 2010 gives to Sudan Civil Aviation Authority (“the Authority”) the powers to set aerodromes standards [Article 4(b)]. The aerodromes standards have been further specified in Sudan Civil Aviation Regulations (SUCAR) Part 14 and include the requirements for wildlife strike hazard reduction in the vicinity of aerodromes. UCAR Part14 requires an aerodrome operator to evaluate the wildlife hazard in the vicinity of the aerodrome and adopt measures to minimize the Likelihood of collisions between wildlife and aircraft.

If involved in a bird strike, many pilots seem to forget the first and most important rule of flying: Fly the aircraft. There are many accident reports in which a pilot, attempting to avoid a bird, has lost control of the aircraft or even flown it right into the ground. When trying to steer clear of birds, you must remain in control. If you pitch up to avoid a flock, don’t pitch up so high that you cause a stall.

Problematic Species

The Black Kite is most prone bird to wildlife strike to be at Juba international Airport. The Marabou stork. They move from the forest to foraging sites or grounds through the airport hence the increase in strikes. The cattle egrets and sacred ibis must significantly to be implemented to reduce the ongoing night colonial bird relocation program that happens around the airport during the night hours. It also requires the development and implementation of a procedure for recording and reporting wildlife strikes to aircraft. The wildlife hazard assessment and control measures are required to be included in the aerodrome manual.

The Authority is responsible for the development and issuance of the regulatory and guidance material applicable to aerodromes design and operations in Sudan, as well as its implementation.

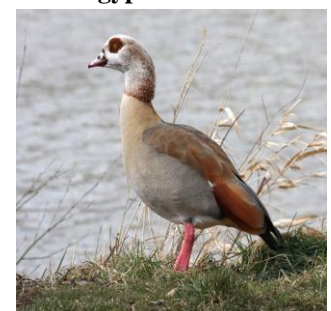
The Authority evaluates the aerodrome manual submitted by an aerodrome operator including the wildlife hazard assessment and the wildlife control measures to determine whether it complies with SUCAR Part 14 requirements and indicate whether the applicant will be able to operate and maintain the aerodrome properly. The Authority collects, through the Sudan Aviation Safety Reporting System information from aircraft operators, airport personnel, and other sources, on the presence of wildlife on or around the aerodrome constituting a potential hazard to aircraft operations. Finally, the Authority submits Wildlife strike reports to the ICAO Bird Strike Information System (IBIS) database.

JIA Problematic Bird Species

Hadada Ibis



Egyptian Goose



Source: Sudan Civil Aviation Authority (2024)

South Sudan Airports Authority must to put in place a Wildlife Management Programme tailored to the size and level of complexity of each certificated Aerodrome.

Section I – South Sudan Civil Aviation (Certification Licencing and Registration of Aerodromes) regulations, 2022 requires that an application for an aerodrome certificate be

accompanied by among others Bird and Wildlife Hazard Management Manual.

In the plan we developed procedures to deal with the danger posed to aircraft operations by the presence of birds in the aerodrome flight pattern or movement area, including the following(A) arrangements for assessing birds and wildlife hazards; arrangements for implementing birds and wildlife control programmes.

South Sudan Civil Aviation (Aerodromes) regulations require the wildlife strike hazard on, or in the vicinity of, an aerodrome to be assessed through, among other things, the establishment of national procedures and an ongoing evaluation of wildlife hazards by competent personnel.

We have complied with this requirement as an aerodrome operator. The aerodrome operator is responsible for the conduct of a wildlife hazard assessment in the vicinity of the airport. The aerodrome operator is also required to include in the aerodrome manual, the wildlife hazard assessment and the measures adopted to control the identified hazards and minimize the likelihood of collisions between wildlife and aircraft. Finally, the aerodrome operator is obligated to report wildlife strikes to the Authority.

Risk Assessment Sites

South Sudan Airports has continually conducted a Bird and Wildlife Risk Assessment for major domestic and international airports which include; Juba International Airport, Wau Airport, Malakal Airport and Rumbek Airport Recording and Reporting; Each patrol or inspection and the route taken; Observation of any unusual condition of the habitat or site such as the state of the vegetation, trees, water bodies or perimeter fence; Species of wildlife sightings including any particular activity such as feeding or resting, and the discovery of any carcasses, dropping or other signs of activity; Interventions that are made; The outcome of any intervention, the response of the wildlife and the effectiveness of the hazard elimination. Incidents such as wildlife strikes on aircraft and near misses. (Systems will also be in place for such reporting by pilots, airlines and ground staff.).

Juba International Airport

Wildlife at JIA is to be controlled by: Managing the habitat so that the airports do not attract wildlife, Excluding wildlife from the airport through the use of fences. Dispersing wildlife from within the movement area and adjacent areas, and Removal of dead wildlife remains;

Major Bird Attractants at the Airport Inadequately Drained Areas

The area surrounding the Airport is flat and contains black cotton clay soil, which is not always easy to drain and fill. When it rains there is pooling of water within the landscape due to less water percolation. The presence of freshwater and waterlogged soils forces invertebrates close to the surface, thereby making them more accessible to foraging birds that end up being a safety risk to aircraft operations.

Poorly Demobilized Projects; The staked new terminal that built by Rocko company and green field behind the terminal is also another site rich in bird species and animals.

The drainage that had been dug and failed to take the water away from the Airport becomes a major problem for attracting the birds. This project did not take off due to unforeseen circumstances and as a result ponds and wetland was created which often attract large numbers of potentially hazardous wildlife during rainy seasons.



Source: Sudan Civil Aviation Authority (2024)

There are Off - Airport Habitats including Nature conservation and recreational areas; Local agricultural practices; Land fill and solid waste management; Storm water and waste water treatment plans; Water bodies including reservoirs, lakes, rivers and the sea; Wetlands including marshes; and Gravel pits and quarries

II. MATERIALS AND METHODS

Location of the Study area

This study was confined to establish the Bird strikes and wildlife measures at southern Sudan associated advocates (SSAA), juba international airport in juba, South Sudan, An aerodrome operator must conduct for each aerodrome an initial assessment of the existence and level of hazard posed or likely to be posed by wildlife in the vicinity of the aerodrome.

The initial Wildlife Hazard Assessment must be conducted by wildlife specialists, with Proven knowledge of the types and behaviors of the wildlife species present or likely to be present in the area where the aerodrome is located.

Some of the most hazardous birds prone to airplane accidents

Black Kite



Marabou Stork



Source: Sudan Civil Aviation Authority (2024)

Sampling

Choices of respondents were based on three techniques: stratified sampling, purposive sampling and simple random sampling. Stratified sampling ensured that all categories of Bird strikes and wildlife measures at southern Sudan associated advocates (SSAA), Juba International Airport in Juba, South Sudan are represented; while simple random sampling gave each respondent a chance of representation and purposive sampling to select the respondents of the study.

Black headed heron



Barn Swallow



White Rumped Swallow



Pied Crow



Source: Sudan Civil Aviation Authority (2024)

Equipment; The practice of distress and alarm calls are one of the most challenging control methods to use. Not only is their effect somewhat subtle, the proper application of the method is challenging. As a result, few controllers use the method appropriately and effectively. Fixed and mobile noise makers, such as propane canons, can also be a potential means

of dispersal for certain species. If properly equipped with remote control, the advantage of this method is that staff in the control tower can operate them when necessary. If the wildlife hazard prevention patrol is on the other side of the airfield, this method can allow them to extend their range by activating a device remotely. Habituation; the classic test for wildlife hazard management is that most animals will become accustomed to certain dispersal interferences or find new ways to settle themselves safely in the airport environment. Therefore, it is vital for airport operators to continuously adjust and vary the measures taken. An airport should proactively pursue different or new ways to reduce the wildlife hazard.

Table 3.3.1 Sample size distribution

Category	Target population	Sample size
Engineers	50	30
Operational manager	50	40
Inspector of aviation	40	30
Forecster	30	20
Chief Operations Officer	50	20
Total	220	140

Source, Field consults (2024)

The study adopted a descriptive design since it describes the nature of Bird strikes and wildlife measures at southern Sudan associated advocates (SSAA), Juba International Airport In Juba, South Sudan as it exists currently. The descriptive correlation design also used to establish the relationship between Bird strikes and wildlife measures at southern Sudan associated advocates (SSAA), Juba International Airport In Juba, South Sudan.

The study population comprised of 220 respondents mostly the civil servants, community members, clan leaders, local council officials, employees from Juba State, South Sudan.

III. DATA ANALYSIS

All the information from the questionnaires was entered into Microsoft excel spreadsheets and SPSS. The SPSS and the Microsoft excel program was used to generate descriptive statistics, graphics, tables and charts. The interpretation of the descriptive statistics made it possible to formulate appropriate inferences in terms of determining the Bird strikes and wildlife measures at southern Sudan associated advocates (SSAA), Juba International Airport in Juba, South Sudan. The qualitative data was analyzed into themes and concepts. Based on the grounded theory plausible relationships among themes and concepts were identified (Strauss & Carbin, 1998).

The data collection instruments were basically questionnaires, which comprised of open and close-ended questions that require respondents to answer all the questions to the best of their knowledge and options given to avoid deviating from the variables under study supplemented with document Analysis of various organization sections/departments or branches and assess their classroom system (United Nations Country Taskforce Monitoring and Reporting Mechanism (UNCTFMR, 2023). The questions were based on: profile of respondents which composed of, gender, age, tribe, Occupation, Health facilities, number of years in this province and Education. Additionally, regarding Inspection operations twenty five (35) items were set for instance on seasonal occurrences (5 items), methodology used for observation five (5), Inspection security dilemma five (5), methodology used for observation five (5), estimated numbers and locations five (5) question, daily and seasonal occurrences five (5), waste disposal and (5). Additionally regarding level of confined disposal facilities five (30) items, were set basing on following constructs public participation (5), Non-paved areas in the strip, five (5) questions, executive and rule of law five (5), Traditional & customary arrangement five (5), agricultural activities five (5) question five on landscaping (5), all these were guided by the response mode of; strongly agree (very high), agree (high), disagree (moderate) and strongly disagree (low). Also the interview guide was used to bridge the gap between the circulated questionnaires among the respondents for instance; Civil servants, Community members/security officials, Clan leaders, local council officials, and employees in Juba State, South Sudan.

IV. RESULTS

This study was set to establish the relationship between Bird strikes and wildlife measures at southern Sudan associated advocates (SSAA), Juba International Airport In Juba, South Sudan. It was guided by the following specific objectives, that included determining the (i) to identify the arrangements for assessing birds and wildlife hazards; (ii) To establish the arrangements for implementing birds and wildlife control programmes. (iii) Establish whether there is a relationship between bird strikes and wildlife measures at southern Sudan associated advocates (SSAA), Juba International Airport in Juba, South Sudan. The methodology used for the identification of wildlife species must be documented in a standardized procedure. As a minimum, it shall include the number and location of the survey points established, the duration of the observation, and how the selected duration allows for adequate assessment of the wildlife species and seasonal patterns.

For each type of wildlife species, the following information must be provided: methodology used for

observation; its scientific and local name; estimated numbers and locations, local movements, daily and seasonal occurrences. Potential wildlife attractants may include: waste disposal, water management facilities, wetlands, confined disposal facilities, agricultural activities (livestock, aquaculture, farming etc), landscaping, or any other specific land-use activities that may attract wildlife.

Profile of the respondents

The findings indicated that majority of respondents were; Majority of the respondents were between 25-35 year of age who composed of 32.1% .; Female respondents dominated the study with 64.3% out of the total sample size compared to their female counterpart; Married respondents dominated the study with 53.6% sample size compared to other marital status category; Masters Certificate holders dominated the sample size with 50%; Regarding occupation others dominated the entire sample size with 54.2%

Table 4.1.1: Profile of respondents, in terms of age, gender, marital status, Education, occupation, and Education (n=140)

Category	Frequency	Percent (%)
Age : 18 – 24	40	28.6
25 – 35	45	32.1
36 – 45	35	25
46 and above	20	14.3
Total	140	100
Gender: Male	50	35.7
Female	90	64.3
Total	140	100
Marital Status:		
Married	75	53.6
Engaged	55	39.3
Widowed	8	5.7
Divorced/Separated	2	1.4
Total	140	100
Education:		
Masters	70	50
Bachelors	35	25
Diploma	10	7.1
Postgraduate Diploma	25	17.9
Total	140	100
Occupation:		
Engineers	39	27.9
Inspector of aviation	25	17.9
Operational manager	76	54.2
Total	140	100

Source: Bachelors Data (2024)

The Bird strikes and wildlife measures at southern Sudan associated advocates (SSAA), Juba International Airport in Juba, South Sudan. Bird strikes and wildlife measures at southern Sudan associated advocates (SSAA), Juba International Airport In Juba, South Sudan, ranged from very high to low. Evidently, there were some areas of Inspection Operations in which the respondents were not fully satisfied such as; The findings on Inspection operations revealed that eight items were measured and rated as follows; methodology used for observation (Average mean=2.43, std .99116) its scientific and local name (Average mean=2.50, std 1.02221), estimated numbers and locations (Average mean=2.64, std. 1.08997) local movements (Average mean=2.41 std. .99248), daily and seasonal occurrences (Average mean=2.18 std.

1.03375) waste disposal (Average mean= 2.25 std. .85146) and water management facilities (Average mean=2.49 std .63617) with an overall mean of 2.41) as well as landscaping, or any other specific land-use activities that may attract wildlife.

Static wildlife scaring devices, such as gas cannons or other sound generators, gradually lose their effectiveness over time. Although some of the more sophisticated devices, which generate a variety of sounds in random or pre-programmed order, may delay this habituation. They are generally more suitable for providing short-term wildlife deterrence from limited areas for instance ground being reinstated after building works.

Table 4.2.1: Bird strikes and wildlife measures at southern Sudan associated advocates (SSAA), Juba International Airport In Juba, South Sudan (n=140)

Items on armed operations	Mean	Std	Interpretation	Rank
methodology used for observation				
Verifying that required facilities are provided	3.29	.878	Very high	1
Increasing populations of many bird species hazardous to aviation	2.65	1.064	High	2
waste disposal and adaptation of birds to urban settings	2.12	1.128	moderate	3
water management facilities	2.09	1.076	moderate	4
estimated numbers and locations	2.02	1.105	moderate	5
Average mean	2.43	.99116		
its scientific and local name			High	1
Increasing air traffic	2.94	1.023		
Increased liability issues with bird strikes	2.91	1.067	High	2
Wildlife Hazard management program and currency and accuracy of the aerodrome Manual	2.42	1.117	moderate	3
Faster, quieter and engine jet aircraft	2.16	1.210	Moderate	4
Average mean	2.09	.957	Moderate	5
Inspection security Dilemma			High	1
All taxiways and runways need to be inspected. Runways are best inspected by driving along both sides of the runway, while a pass in each direction on all taxiways is a good practice to inspect signs from both directions.	2.88	.962		
The initial aerodrome certification inspection is normally more in-depth and may involve multiple trips around the airport.	2.85	1.028	High	2
Due to the width of a runway and the runway strip, a more effective inspection can be conducted by having the vehicle operator drive along both sides of the runway.	2.58	1.172	High	3
The speed of the vehicle should be slow enough for the Inspector to conduct an effective inspection, taking into consideration how busy the aerodrome is.	2.53	1.210	High	4
For safety reasons, Inspectors should have vehicle operators drive towards landing traffic along one side of the runway and backtrack on the parallel taxiway to conduct a second pass on the other side of the runway.	2.38	1.255	moderate	5
Average mean	2.64	1.08997		

Source: Bachelors Data (2024)

Portable equipment, that requires a staff member on the airfield to operate it, is generally regarded as offering the best control, providing that the staff members involved are properly trained and motivated. Devices such as pyrotechnic, pistols, or vehicle mounted distress call generators produce an impression of a direct threat which can be continually varied in time and location by the operator in a manner not available to static systems. This is to prevent wildlife habituating to a static device as they learn that it is not a serious threat.

The findings indicate that, Each patrol or inspection and the route taken; Observation of any unusual condition of the habitat or site such as the state of the vegetation, trees, water bodies or perimeter fence; Species of wildlife sightings including any particular activity such as feeding or resting, and the discovery of any carcasses, dropping or other signs of activity; Interventions that are made; The outcome of any intervention, the response of the wildlife and the effectiveness of the hazard elimination. Incidents such as wildlife strikes on aircraft and near misses. (Systems will also be in place for such reporting by pilots, airlines and ground staff.)

Ranking the Severity of a Strike; The next step is to rank the expected severity of the impact or damage resulting from a strike event. Sometimes called the Hazard Level Ranking, this can use a scale similar to strike probability scale. This ranking will depend on the size of the animal and its tendency to flock or congregate. Heavier animals have a greater capacity to damage an aircraft and impact its flight performance. As a guide, birds that tend to flock and weigh more than 1.8 kg can cause the most severe damage to aircraft. The birds (or bats) that are solitary and weigh less than 50 g might be expected to cause the least severe damage.

Flocking behavior might mean that a strike event could include multiple impacts or it could increase the probability of a strike. Severity can be rated in terms of aircraft damage and human casualty. Negligible could mean near miss and aircraft damage. Minor could mean light aircraft damage. Moderate could mean severe aircraft damage. Critical might mean that the aircraft could crash with no human death, just wounded, and Catastrophic might mean an emergency situation with aircraft crash and severe wounds or death casualty. Each airport should determine its own scale. The range of aircraft sizes operating at an airport will also need to be taken into consideration, so clearly the views of the aircraft operators should be considered.

V. DISCUSSIONS

All airports are required to continuously evaluate bird hazards, and to decrease the risk to aircraft operations by adopting measures that minimise the likelihood of collisions between wildlife and aircraft. Official regulations place

minimal requirements on airports. If done right, the birds won't have adequate resources for continued nesting, so are encouraged to relocate and leave to find somewhere else.

You can also use lasers, predator calls, and noise generators to disrupt the habitat and make the area less attractive for birds. However, this may be less effective in the long-term as birds may eventually return to the area after the disruption has stopped.

Traditionally, trained spotters are employed at airports to locate and track birds that have the potential to cause risk. Typically equipped with binoculars, the spotters are tasked with finding the birds, reporting them to flight crews, changing flight paths, and dispersing them before they come in close contact with any aircraft.

While this method of tracking birds is well-established, it lacks sophistication and is much harder to perform consistently. For example, if fog or mist reduces visibility, airports that rely on human oversight will likely be prevented from making accurate observations. Plus, human error is likely to occur, and this can slow down response times considerably.

Bird Detection Radar Tracking; A more effective method of bird hazard management is using an avian detection radar. Unlike manual observation, bird detection radar operates 24/7, so regardless of the weather, time of day, or location, it provides complete tracking confidence. Plus, it gives airports additional insight and data into flight paths and migration routes, allowing airports to quantify recurring patterns in bird behaviour.

The best radars will be able to classify and log birds automatically, which is useful at keeping track of their movements so airports can plan accordingly. At this Airport, bird detection radar helped them gain the data they needed to react faster and mitigate the risk of bird strikes. Whereas before they'd rely on delayed reporting from spotters, now they can track threats in real-time across the entire airport and respond a lot quicker.

Prevent Bird Strikes on Aircraft; With the risk of bird strikes here to stay, airports require an accurate, standardized, and real-time method of preventing bird strikes. Many are limited by the discrepancies of bird spotters, lack of coverage at all times of the day, and limited scope across the entire airport. As airports get busier, with more and more flights happening each day, the threat of bird strikes will continue to grow. So, it's essential for airports to stay vigilant, and take every step to manage and prevent bird strikes on aircraft.

The classic challenge for wildlife hazard management is that most animals will become accustomed to certain dispersal

interventions or find new ways to settle themselves safely in the airport environment. Therefore, it is vital for airport operators to continuously adjust and vary the measures taken. An airport should proactively seek different or new ways to reduce the wildlife hazard.

Aerodromes must understand the importance of aircraft safety from a habitat and wildlife management perspective. This importance will be highlighted in an Aerodrome Safety Management System and will be supported by comprehensive Aerodrome procedures to manage the habitat and wildlife management plans.

A named senior manager will have overall responsibility for the plan and will be supported by a wildlife subject matter expert. Additional support will be provided by the aerodrome wildlife committee and local runway safety team. The dedicated wildlife management team should be properly resourced and receive comprehensive training for the specialized role they perform.

VI. CONCLUSIONS

Effective control requires the use of a mobile patrol, operated by trained and equipped staff who are able to disperse wildlife immediately as they are detected. The choice of techniques is dependent on; In-depth knowledge of the airport and vicinity habitats and the distribution, Movement patterns and behavior of the wildlife. Where are reported strikes occurring? 59% below 100 feet (30 m), 92% below 3,000 feet (900 m), Less than 2% above 10,000 feet (3000 m) , Highest strike: 32,500 feet (10000 m) and Certification to the Airports should “triggers” to require a Wildlife Hazard Assessment and a Wildlife Hazard Management Plan (WHMP).

ACKNOWLEDGEMENTS

I am most grateful to my family and friends and to all those who have contributed to the accomplishment of this research. Thank you all. Secondly am grateful to my supervisor, my co-author Dr. Musoke Matthew, Mr. Hassan Abdulle Hassan for their heartfelt guidance and supervision he has rendered in the approval and drafting of this study. Thirdly am grateful to the Almighty God for his overwhelming provisions and guidance he has provided to me from childhood to this level.

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Musoke Matthew, hold a Degree of Master in Business Administration-Finance and Banking, a Degree of Bachelor in Business Administration-Finance and Banking, and a Higher Diploma in Secretarial Studies and Office Management, Certificate in communication skills, and Certificate in financial management, he has served as a Manager Innovation and Creativity(2023) to date, Lecturer at the School of Graduate studies and Research at Team University and Faculty of Business and Management respectively, Assistant Head of Department-Faculty of Business and management of Team University, Executive Assistant-DVC-Academic Affairs (2014), Administration manager at Wonderful Hotel and Restaurant (2017), Assistant Lecturer at the College of Economic and Management at Kampala International University as well as AML-Control Officer at Midwest Forex Bureau Limited-Kampala. He has a vast knowledge at postgraduate and undergraduate in areas of project evaluation and management, corporate finance, corporate inspection, investment and treasury management, financial reporting, financial management, international financial management, document processing, real life project, office secretarial and skills, investment banking, public sector financial management, production and operations management, advanced accounting, business finance, financial intermediaries, managerial communications, project information organisation and behavior.



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Citation of this Article:

Joseph Gibril Isaac Lomeri, Musoke Matthew, Hassan Abdulle Hassan, "Bird Strikes and Wildlife Measures at Southern Sudan Associated Advocates (SSAA), Juba International Airport in Juba, South Sudan" Published in *International Research Journal of Innovations in Engineering and Technology - IRJIET*, Volume 8, Issue 3, pp 90-98, March 2024. Article DOI <https://doi.org/10.47001/IRJIET/2024.803012>
