## Africa Aviation Security: Implications for Peace and Security

**Introduction: Aviation in Africa and the Importance of Security**

This paper focuses on aviation safety and security in Africa. It highlights major concerns and challenges for aviation security and safety in Africa within the global and regional context and attempts to map aviation insecurity in the region. It points out the lack of compliance with international guidelines as the main issue of concern and identifies the reasons for this reality. In addition, it analyses the steps that the African aviation industry is taking, and must take to curb security and safety related incidents. In the end, areas of concern are identified and recommendations made as to what has to be done to improve aviation security that seems to be affected by modern day security challenges including international terrorism and organized crime as well as safety.

A report carried in The Standard newspaper of June 12th 2008 reaffirms the impact of air disasters in the region. It indicates that Africa traditionally tops international air accidents lists with a crash rate seven times higher than the world. The paper quotes civil aviation authorities as expressing concern over the costly aviation security and safety which has claimed a lot of lives in the recent past to the chagrin of the insurers. The importance of the aviation industry in Africa to many sectors cannot be gainsaid. In Africa, as in other continents, aviation remains the safest, fastest and most reliable form of transportation. Air transport is an important facilitator of economic activity and trade. As such, airports are not just communication hubs but are the core of African trade and international trade.[1] The slow aviation infrastructure development pace in Africa therefore has implications not just for the aviation industry but also on African development in general. Understanding the role security plays in assuring passenger and operator confidence has convinced many that adequate security is crucial to the aviation sector's ability to deliver and to sustain a sound aviation industry and vibrant economies.

Apart from trade, air travel facilitates international responses to humanitarian crises in Africa by providing badly-needed assistance to war torn societies and areas afflicted by natural disasters. Another reason why the safety and security in the aviation industry should concern us more than ever arises from concerns over international terrorism.[2] In today's world of faceless terrorists, aviation safety and security in Africa is an issue of international concern because no one knows where the next threat may come from. An aircraft traveling from any city in Africa to any other part of the world could be of high risk if adequate security is not in place at the point of departure.

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Despite the fact that most airlines operating in Africa are based in other continents, African skies must be kept safe, infrastructure must be developed to meet contemporary standards, and sufficient security must be put in place. Passengers and crew who feel safe flying out of Africa should have the same measure of confidence while traveling within Africa. Developing such standards elsewhere without the same in Africa is an exercise in futility. The importance of security and safety in aviation is of paramount significance that cannot be underrated the world over.

In general, the aviation industry in Africa is in a bad state of affairs. Firstly, African investment in air transport has been marginal with most of the capital in the industry being foreign owned. Safety records have been far from impressive with 17% of all global aviation accidents recorded in Africa[3]. According to the International Air Transport Association (IATA), the number of major accidents per million takeoffs in Africa stood at 4.03 in 2006, compared with a worldwide average of only 0.65[4] Despite major accidents reported across the continent, according to IATA 2006 was the safest year globally, with just one accident for every 1.5 million flights[5]. Africa's air safety record was only better than that of Russia which with 8.6 accidents per one million departures had an accident rate thirteen times the global average.

Secondly, until now, air safety in Africa has been left to individual countries. The continent does not seem to, and has not spoken with one voice on aviation matters.[6] There are no continent wide benchmarks in aircraft maintenance and in-flight operations. Currently, there is lack of harmony in issuance of airworthiness certificates for aircraft and the licensing of airliner pilots as well as experts to help national authorities implement internationally-accepted levels of air transport practice. This raises questions on the capacity of oversight regulatory authorities in managing security and safety of the aviation sector. The recent initiative by African governments to create the Afro-Civil Aviation Agency (Afro-CAA), a continent-wide air safety agency modelled on the EU's Aviation Safety Agency and the U.S. Federal Aviation Agency may be a good start in the right direction[7].

Third, the problems of an undeveloped infrastructure and poor security though global in character, seem to affect African countries more. Today, Africa is said not only to serve as transit point for terrorists but to produce terrorists in its own right.

Fourth, security issues are sometimes undermined by the commercial nature of airlines who, in order to remain relevant in global business, and subjected to economic constraints do not give security the seriousness it deserves. In some countries customer care overrides security even where ICAO has clearly underscored the need to facilitate comfort without compromising security.

Fifth, most of Africa could still be considered as frontier territory in as much as aviation infrastructure is concerned. Transport and travel in most parts of the continent is mostly rudimentary with highly localized communities whose priorities lie not in air transport but on challenges of daily survival. The wide disparity in aviation infrastructure-development levels between developed and developing countries, particularly in Africa inequities pose a problem for maintaining uniform global standards in aviation security.

Before delving at length into finding an explanation for the state of affairs described in the aviation industry in Africa, the relevant international standards are outlined. In passing however, one can assume, at a preliminary level that the state of insecurity in the aviation industry can be attributable to a number of factors – non compliance with international aviation security guidelines and requirements; and lack of capacity to implement international aviation safety and security requirements, both of which may arise from the failure by African governments to appreciate the importance of aviation industry.

*Risk assessment criteria*

International aviation measures are stipulated in the International Civil Aviation Organisation (ICAO) Standards and Recommended Practices relating to the prevention or deterrence of unlawful acts of interference against civil aviation, particularly Annex 9, Facilitation and Annex 17, for Security. These call upon all States to use clearly established criteria for risk assessments extended beyond international flights to

include intra-state flights. The objective is the establishment of a National Civil Aviation Security Programme (NCASP) or other appropriate document by each contracting state that appropriately defined the responsibility for evaluation and implementation of civil aviation security.[8] Any risk assessment should include, but not be limited to, the following considerations: overall risk; domestic operations that are treated differently which could possibly contaminate the aviation security environment of international operation; passengers, baggage, and cargo, crating cross-contamination through the movement from domestic to international flights; nature of traffic; size of the airport; range of the aircraft; feasibility; and potential impact on other states as a result of an act of unlawful interference.

*Legislative measures*

Secondly, the Aviation standards require states to provide for national legislation and regulations allowing the appropriate authority to allocate responsibilities and implement programmes to ensure compliance with Annex 17 of the Convention on Civil Aviation. Issues to be addressed in the national legislation section include legislation to:
- establish basic legal authority for the conduct of aviation security,
- establish the appropriate authority responsible for the security of aviation among state organizations and possible elements of aviation,
- provide the authority to allocate the various responsibilities for security of aviation between the organizations of the state and industry,
- provide powers of arrest and detention of offenders by the authority performing law enforcement functions and security authorities,
- provide the authority for the adoption of rules and regulations relating to the application of aviation security by airport administrations, aircraft operators,
- providers of air navigation services and providers of security services,
- provide legislation defining specific offences relating to aviation security breaches.

*Allocation of responsibility*

National Civil Aviation Security Programme (NCASP) allocates responsibility by defining the specific authority and responsibilities of the following entities: designated overall authority for aviation security; civil aviation authority (if different from designated authority); airport administrations; airport tenants; aircraft operators; policing authority; military and other agencies. It also defines the national policy for the protection of airports, aircraft and air navigation facilities, through the designation of security restricted areas, protection of security restricted areas, control of general access requirements, control of access of persons and vehicles, control of access to and protection of aircraft and protection of navigational and other vital facilities.

It requires each contracting state to provide service from the state to establish and implement a written operator security programme appropriate to meet the requirements of the national security programme of the state, measures related to security processing of passengers and goods, as well as other ground security measures since in-flight security begins on the ground.

Additionally, Standard 3.4.6 stipulates that each contracting state concerned with an act of unlawful interference shall require its appropriate authority to re-evaluate security controls and procedures and take action necessary to remedy weaknesses so as to prevent recurrence. After each occurrence or threat, a review and analysis of all that transpired should be conducted as soon as possible by the appropriate authority for aviation security.

*Carriage of weapons on board aircraft by authorized persons*

Standard 4.6.4 stipulates that each contracting state shall ensure that special authorization in accordance with the laws of the states involved is in place for the carriage of weapons on board aircraft by law enforcement officers and other authorized persons in terms of their duties. The same condition applies to the

carriage of firearms on board aircraft by policing authority officers and other authorized persons.

*Safety of the passengers and crew of an aircraft that is subjected to an act of unlawful interference*

Each state is obliged to take adequate measures for the safety of the passengers and crew of an aircraft that is subjected to an act of unlawful interference until their journeys can be continued. This obligation may arise as a consequence of a wide variety of acts including sabotage of an aircraft in transit through the airspace of a state to the termination of an act of unlawful seizure at an airport. A state can be required to restore an aircraft to a serviceable state after its emergency egress equipment has been deployed to allow the evacuation of passengers.

*Information that concerns the security aspects of acts of unlawful interference*

Each state is obliged to provide ICAO promptly with reports on each incident of unlawful seizure, regardless of whether the outcome was successful or unsuccessful, as preventive measures are the keystone to the aviation security programme. A complete final report often involves considerable investigation, and its completion may not be possible before the lapse of several weeks after the incident occurs, therefore, in order that ICAO may keep abreast of changing patterns. This will include:
- A preliminary report on an act of unlawful interference to be prepared and forwarded as soon as possible by the state of registry,
- a final report on an act of unlawful interference to be prepared and forwarded upon completion of investigations by states.

The reports should include any act of unlawful interference as follows:
- act of unlawful seizure of an aircraft, attempted act of unlawful seizure of an aircraft,
- unlawful act against the safety of civil aviation (including acts and attempted acts of sabotage, malicious damage, bombs and other explosive devices, and substances such as explosive, chemical, biological and nuclear materials found on airports, aircraft or in airmail, air cargo and baggage),
- attacks against aircraft in flight from an exterior source such as a surface-to-air missile, small arms fire, laser beams or other advanced technology; and any other act of unlawful interference (including armed attacks at airports and their support facilities, or deliberate interference with aircraft in flight electronic or computer means).

Response to acts of unlawful interference and contingency arrangements

Contingency measures and plans must be contained in an approved Airport Security Programme (ASP), thereby meeting the requirement for approval by the appropriate authority for Aviation Security (AVSEC), they must be developed based upon the threat to civil aviation security. As a minimum, any approved contingency plan must include the following items:
- Screening of passengers, baggage, cargo, mail and stores;
- action to be taken in respect of unlawful seizure or sabotage of aircraft and installations;
- threats of such acts;
- armed attack within airport boundaries;
- armed attack on aircraft or installations from external points near the airport perimeter;
- investigation of suspected sabotage devices or other potential hazards at airports;
- procedures for the disposal of such items

Specific duties must be defined for all responding agencies designated in the plan such as: Government authorities; Authority responsible for police functions; Air traffic services; Aircraft operators; Military; Medical services; Rescue and fire fighting services and Hospitals.

The appropriate authority must assign responsibility for specialist elements (hostage negotiators, explosive ordnance disposal units, interpreters, armed intervention teams, etc.) for deployment at airports to assist in dealing with suspected, or actual, cases of unlawful interference with international civil aviation. Training requirements for the above personnel shall be determined and approved by the appropriate authority for aviation security. Annex 9 and 17 requires that all the personnel charged with the responsibility of managing security to be trained appropriately.

*Safeguard of aircraft when a well-founded suspicion exists that the aircraft may be subject to an act of unlawful interference*

A state may categorize all or specific flights of an aircraft operator under an increased threat to be high-risk for an indefinite or specific period of time, thereby requiring additional security measures at its airports depending upon the assessment of threat by that state, the consideration of high-risk flight might also be based upon a request of that state. The determination of additional security measures necessary introspect of high-risk flights should be based upon pre-established principles. To deal with situations where the state is in possession of intelligence of other information which indicates that a specific aircraft, or a specified number aircraft, is suspected, on well-founded ground, to be the object of an act of unlawful interference, procedures are required to notify the operator concerned and require special additional inspections of the aircraft for conceals weapons, explosives or other dangerous devices.

*Procedures for the inspection and searching of aircraft*

Whereas states need to establish procedures for the inspection and searching of aircraft during both routine operations and high-threat situations, this is a challenge as airline operators who are in most cases private do cooperate promptly since they would not like government involvement in their operations. In view of the possibility that explosive devices and weapons may be concealed within aircraft equipment or components, it is essential for the search teams to include qualified engineering and/or maintenance personnel.

*Arrangements for the investigation and disposal of suspected sabotage devices or other potential hazards at airports*

Responsibility for the investigation and disposal of suspect devices and other potential hazards must be allocated in the NCASP and any other approved aviation security programme, standards approved by the appropriate authority must be issued to the responsible party/parties as assigned in the aviation security programmes, these standards must effectively define acceptable forms of investigation and disposal. Only trained personnel may be used to perform these functions, results of the investigation must be evaluated and adjustments to applicable aviation security programmes must be made as warranted.

*Cooperation with other states on security measures*

Special security measures requested by a state should, to the extent practicable, be carried out. In order that such requests for special security receive appropriate attention, states should, after mutual consultations and prior to any special requests, define procedures and identify officials at the government, airport and aircraft operator level to notify or receive threat information. Additionally, the parameters of special security measures, responsibility for any additional costs, and the time frame to initiate action should be agreed upon.

Cooperation between states in the preparation of NCASPs and in particular the practices and procedures substantially contribute to achieving the desirable objective of international aviation security. Consistent practices and procedures between states enhance aviation security generally, assist implementation of aviation security by operators, and improve the traveling public's perception of and confidence in transport by air. In order to promote consistent implementation by states of aviation security practices and procedures, states should make available to other states, upon request appropriate information concerning their national civil aviation security training programme.

*Handling procedures for sensitive security information*

Sensitive security information shared by another state should, to the extent practicable, be protected to the degree requested by the providing state, should the receiving state be unable to provide the necessary level of security, the providing state should be so informed. Where the information is particularly sensitive or received with high levels of security classification, and to ensure essential information can be distributed to those persons who have a need to know, it may be necessary to pass on only suitably sanitized basic information sufficient to enable organizations to react appropriately to threats.

Physical security measures accorded to sensitive security information and other classified documents are established by the state according to national guidelines. However, as a minimum, it is recommended that national civil aviation security programmes be securely stored when not in use. Keys for the receptacle or room should be strictly controlled, higher levels of physical security such as specially constructed security cabinets or safes will afford greater protection and should be used where considered necessary.

*Allowance for travel of armed personnel on board aircraft*

Each state must decide if, when, and under what circumstances armed in-flight security guards will be permitted to carry weapons while in its territory. Approval may be conditional upon prior notification by the state of registry of the arrival of the armed security guards and jupon their observance on arrival of al the applicable laws, regulations and controls of the state ageing to permit the landing of in-flight security guards. State policy and procedures concerning such carriage must be clearly established in the NCASP or other appropriate document.

*Assistance to an aircraft subjected to an act of unlawful seizure*

A single government agency should be assigned primary responsibility and authority to determine the course of action to be taken when an aircraft subject to unlawful seizure is at an airport, this agency should coordinate all actions with the civil aviation authority, the airport administration, the affected operator and such other organizations on or off the airport as may be deemed appropriate. Should the government agency assigned responsibility for managing acts of unlawful interference in flight be other than that assigned responsibility for managing acts of unlawful seizure on the ground, it will be essential for a clear and precise agreement and system to have been established prior to an occurrence, so that there will be no confusion as to when responsibility passes from one agency to the other during as act of unlawful seizure.

*Passenger and cabin baggage security*

Each contracting state is required to establish measures to ensure that originating passengers and their cabin baggage are screened prior to boarding an aircraft engaged in international civil aviation operations. All passengers and their cabin baggage must undergo screening before being permitted access an aircraft, sterile area or security restricted area, this procedure must be applied to all international flight operations and whenever practicable to all domestic operations. This is especially necessary when screened passengers for international flights and non-screened domestic operations passengers will have contacts after the passenger screening point. Similar screening requirements should be applied to all other persons, including flight and cabin crew, requiring access to security restricted areas containing screened passengers or access to an aircraft.

*Adequate security controls to prevent unauthorized articles*

Each contracting state is obliged to ensure that transfer and transit passengers and their cabin baggage are subjected to adequate security controls to prevent unauthorized articles from being taken on board aircraft engaged in international civil aviation operations. The standards must also include measures to ensure

that if transfer and transit passengers and/or their baggage come in contact with unscreened persons or articles that they are re-screened in accordance with approved methods.

*Mixing or contact between passengers subjected to security control and other persons*

Each contracting state shall ensure that there is no possibility of mixing or contact between passengers subjected to security control and other persons not subjected to such control after the security screening points at airport serving international civil aviation have been passed: if mixing or contact does take place, the passengers concerned and their cabin baggage shall be re-screened before boarding an aircraft. Security arrangements at airport should prevent departing passengers from mixing with arriving passengers after the point of security screening, where these passengers cannot be separated physically, and arriving passengers boarded their aircraft at an airport where the quality of security measures may be inadequate, arriving passengers should not be permitted to mix with screened departing passengers or transfer to another flight unless they have been subject to appropriate security screening.

*Aircraft and in-flight security*

Each contracting state shall ensure that aircraft security checks of originating aircraft assigned to international flights are performed; a standard for the conduct of pre-flight checks must be developed and approved by the appropriate authority. No personnel may conduct pre-flight checks unless they have received training approved by the appropriate authority, it is a requirement that measures to be taken in respect of flights under an increased threat to ensure that disembarking passengers do not leave items on board the aircraft at transit stops on its airports. Each contracting state shall require its operators to take adequate measures to ensure that during flight unauthorized persons are prevented from entering the flight crew compartment, the door between the flight crew compartment and the passenger cabin(s) should have the capability of being locked from inside the flight crew compartment during flight, the pilot-in-command is notified as to the number of armed persons and their seat location. Also, written pre-flight measures should include confirmation of the presence and seat assignment of any authorized armed passengers, persons in custody and their escorts.

Having outlined the applicable international security and safety standards, the paper considers the practice in African airports.

<div style="float:left">The security and safety of airports in Africa</div>

Security and safety in African airports is usually the responsibility of state governments within which the airports fall, where governments provide for control towers, runways and perimeter fencing. Airport safety is the domain of both civil aviation and airport authorities through air traffic controllers, navigators, aviation safety officials and other law enforcement agencies. Protection at airports primarily includes:
- a national policing agency hired and dedicated to the airport;
- a branch of the local police department stationed at the airport ;
- members of the local police department, usually paramilitary assigned to the airport as their normal patrol area including securing of the perimeter fence and guarding vital installations;
- members of a country's military;
- members of a country's airport protection service;
- anti-narcotics officers for drug detection and other purposes;
- in some countries a unit dedicated in detecting and combating terrorism activities;
- veterinary and public health services among others.

Airport security refers to the techniques and methods used in protecting airports and by extension, aircraft from crime, unlawful interferences and terrorism. It provides a first line of defense by attempting to stop would-be attackers from bringing weapons or explosives into the airport. If they can succeed in this, then the chances of these devices getting onto aircraft are greatly reduced. Consequently, airport security serves

the following purposes:- to protect the airport from attacks and interdiction of criminal acts, to protect the aircraft from attack.

Large numbers of people pass through African airports every day, presenting a natural target for terrorism and other forms of crime due to the number of people located in a small area. Similarly, the high concentration of people on large airliners, the potential high lethality rate of attacks on aircraft, and the ability to use a hijacked airplane as a lethal weapon provide an alluring target for terrorism. Excerpts from the FBI interrogation of Essam al Ridi the Egyptian pilot who flew Osama bin Laden's jet from Arizona to Khartoum in 1993, reveals serious security and safety concern and the vulnerability of the African skies and airports[9].

In an effort to achieve and maintain safety standards in the aviation industry globally, the ICAO and IATA emphasize the need to adhere to safety and security standards as set in the Universal Oversight programme and the Operational Safety Audit (UOOS). Under the UOOS, only six airlines (out of the 350) – South African Airlines, Mauritius, Egypt Air, Kenya Airways, Connair, Ethiopian Airlines and Royal Air Morocco – have as at 2007 achieved registration[10].

However, it is safe to say that the region has had its own fair share of negative publicity on this issue. Major players in the aviation industry, the airlines through IATA, the pilots, air traffic controllers and civil aviation authorities and ICAO, have struggled, in vain, to achieve a common solution to the regions' woes. Civil Aviation authorities do accept limited share of the blame and apportion some of it to the limited powers they have from central government on deciding on how to spend the revenue they earn through various service users charges on improving infrastructure. In some cases authorities accuse pilots, airlines and controllers of exaggerating the region's safety problems. Pilots and controllers alike have often aired their frustrations about the deficiencies existing in navigational and communication equipment; in some areas equipment has been best described as either non-existent or in a sorry state of disrepair. In some cases pilots have confused the lack of such basic communication as VHF radios to controller inefficiency[11].

To get an insight of safety and security measures in Africa, a few incidences where some African airports have been subject to security and safety breaches are cited below.

**Murtala Muhammad Airport, Lagos, Nigeria**

On August 11, 1993 Washington suspended direct flights on the route because of security lapses at the Murtala Muhammad Airport in Lagos. It is noteworthy that the United States did not abandon Nigeria after suspending the air link. Experts from the American Federal Aviation Administration (FAA), the Department of Transportation (DOT), and the United States Embassy in Lagos collaborated with Nigerian officials to bring about positive change. In fact, the suspension could well be described as a tonic that improved security and security awareness in Nigeria's air transportation sub-sector. For instance, suspension of air service hastened the use of screening machines and color-coded identity and on-duty cards, restriction of movement into secure areas, perimeter fencing, and improved monitoring and other services at Nigerian airports. As it responded with these improvements, the Federal Government of Nigeria was aware that it was necessary to meet U.S. standards in order to win the confidence of air travelers within the Nigerian system and to foster air transportation not only within the country but between Nigeria and the U.S. The suspension was lifted by the U.S. government on December 22, 1999 after the Nigerian government appreciably improved the situation[12].

**Kenya Airways Flight KQ 507 Crash in Douala, Cameroon**

The delayed, protracted and initially confused and off-course search for the Kenya Airways plane that crashed on 5 May 2007 in Cameroon was a cruel reminder that African countries lack the minimum level of expertise required to respond professionally and effectively in the event of an aviation disaster. Flight KQ 507 crashed only about 20 kilometers from Douala International Airport, yet it took the Cameroonian authorities almost two days to locate the downed plane.

Admittedly, the circumstances of the crash were extraordinary – bad weather, technical communication problems and critical time frame. The plane crashed shortly after midnight on a Friday when most civil authorities in Africa may not be up to speed in a forested, swampy area that was difficult to access. Still, the Cameroonian authorities did not mobilize a search and rescue mission until around eleven Saturday morning.

This in essence confirms the African Civil Aviation Commission and the International Civil Aviation Organisation (ICAO) recent evaluation of the search and rescue preparedness of 18 African countries that concluded that most lacked efficient search and rescue systems. The evaluations, carried out in 2002, found out that the most common shortcomings included: lack of training; inadequate staff; lack of quality control and poor funding; lack of political will; lack of necessary technical expertise, funds, equipment and human resources to organize exercises in good conditions.

It is well known that search and rescue exercises are extremely useful as they test the functionality of the entire system, the efficiency of all players who include air traffic control services, civil aviation, airlines, ambulances and medics, security forces, and so on. According to ICAO, African search and rescue systems are idle most of the time because of the low level of air traffic in most countries, despite a proportionally high-accident rate in Africa[13].

## Missile threat at African Airports

The location of most airports in Africa renders them particularly vulnerable to missile attacks. Most approaches to runways in Africa are located in bushy areas or residential areas with a high density of population that are difficult to police and susceptible to acts of unlawful interference. This poses challenges to security managers especially in the case of terrorists using shoulder launched missiles such as the Stinger and SAM7 missiles that can be easily transported around and even dumped by their users after use. Incidents of this nature could occur at the most critical stages of flight such as just before landing or take off when the aircraft is flying low and at lower speeds.

Africa has had its share of such attacks. The 6 April 1994 shooting down of a civilian aircraft carrying Presidents Habyarimana of Rwanda and Ntaryamira of Burundi is a case in point. A SAM 7 missile is believed to have been used. Both died in the crash that is said to have sparked the Rwandan genocide. In November 2002, an Israeli airliner carrying hundreds of tourists flying back to Israel was shot at the Mombasa International Airport by surface to air missiles causing damage to the aircraft, in a twin terror attack on Israeli interests in Kenya. The Israelis escaped the attack probably because the missile used was thirty years old, according to the London based editor of Jane's Land Based Air Defence.

## Osama bin Laden's Pilot: Khartoum International Airport

In 1993, Essam al Ridi an Egyptian pilot flew Osama bin Laden's jet from Arizona to Khartoum airport where the aircraft remained for more than a year on tarmac unused. On Osama's wish to do business using the aircraft the pilot decided to fly it despite its being not airworthy and ended up crash landing. His escape with ease to Addis Ababa for fear of being identified with Osama exposes the gaps in the border control functions of the airports in the region[14].

## Al Quaeda Operative learns flying in Kenya

L'Houssaine Kherchtou a Moroccan national who was a member of Al Qaeda involved in the East African US Embassy bombings, testifying in New York in 2001 explained how Al Qaeda tasked him to learn flying in Kenya and carry out operations in East Africa in the years preceding the 1998 attack (Wright 2006). The bombing was testimony to the achievement of Al Qaeda's objectives and the success of his assignments exploiting the weaknesses in the aviation security and border control operations in the region. The contrary is witnessed by another terrorist Abdul Basit Mahmoud Abdul Karim also known as Ramzi Yousef as regards security measures by the Philippine authorities that, not only deterred the assassination of the US president, Bill Clinton, during his visit during the fall of 1994, but also foiled a major terrorist attack on the Manila International Airport[15]

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| **Aviation security and safety** | Since 1948, the aviation industry has developed in leaps and bounds thereby requiring oversight and regulation in the interest of security and safety of the stakeholders. The civil aviation regulations have been consequently developed from time to time in response to emerging new challenges. Over a thirty-year period for instance, the industry has experienced major challenges and changes including technological advancement. Criminal activity of international dimension has not spared the industry. It has called for reassessment of security measures by all players beyond national, territorial and regional scope. Aviation accidents in the industry remain a major concern in that air transport is the most preferred mode of transport. Technological advancement has made the industry the fastest and most reliable mode of transport for goods and people to and from other continents. |

The nature and scope of the September 11 2001 attacks in United States changed the whole perception of the industry whose interest was previously confined to the users or stakeholders to the entire mankind. ICAO, the specialized United Nations agency charged with the responsibility of safe and orderly development of international civil aviation, responded to the new dimension with a decision to review and adopt the Standards and Recommendations to address the new global challenge. Contracting States were required to domesticate the standards and recommendations in national legislation. Importantly, the standards and recommendations call for emphasis beyond the safety regulations, which covered aspects of licensing of aviation personnel, airworthiness and the operation of the aircraft[16].

Whereas safety is limited to the industry stakeholders, security goes beyond and affects the general national and regional security beyond the traditional concerns of aviation. Lessons learned from the September eleven attacks show that all ports of entry (land, sea and airports) played a role in the success of that attack[17]. Therefore, it would be prudent to prioritize the implementation of the ICAO convention resolutions by developing the legislation to harmonize border control and the management security and safety in the aviation industry in the region.

The experiences relating to terrorism and organized crime in the region indicate that the continent is not only vulnerable to terrorism but it also is a major link and player in the global insecurity, particularly terrorism, proliferation of small arms, human trafficking and narcotics trade. Socio-economic and political instability in Africa will continue to subject the entire world to vulnerability and insecurity[18].

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| **Aviation safety** | Africa continues to be bedeviled with air disasters. New figures show that up to a third of the world's air accidents occur in Africa. It means that a passenger is more than 6.6 times likely to die in a plane crash in Africa than elsewhere in the world. Although representing only 4.5 per cent of the global traffic, between 2005 and 2006 the continent recorded 30 per cent of all the air traffic accidents in the world. In 2003, the continent recorded 400 deaths accounting for nearly 50 per cent of the world's civil aviation related deaths. The figures did not include those of the civilian and military personnel who were killed in military aircraft since their details are not always revealed[19]. |

The Democratic Republic of Congo, Angola, Sudan, Nigeria, and Kenya accounted for 62.6% of the total number of aviation accidents in the last one decade in Africa. Factors responsible for these accidents were mainly:
- Ageing and poorly maintained aircraft mostly from war torn countries,
- flight crew errors,
- deficient organizational safety culture,
- poor regulation of operating environment and poor state of infrastructure, (airports and airstrips, runways),
- broken down communications equipment like air navigation aids or absence of it,
- corruption in the issuance of air operator's licenses.

Military or other small and medium size operators with a near obsolete technology and operating in a poorly regulated environment operated most of the aircraft. Notably most of the aircraft were manufactured in the former USSR. These include

the Antonovs, whose technical maintenance records have gone missing or are not available, and those that may be available are in Russian language that African pilots cannot read. For instance in 2005, out of the fourteen accidents recorded in Africa, ten were Antonovs, two were Ilyushins, one Boeing 737-200 and one DC 9-30.

In 2006 the European Union blacklisted some of the African Airlines considered risky despite the normal scheduled commercial airlines offering safe travel to passengers to Europe and other destinations in the world. Issuing the ban to aircraft considered unsafe to Europe, Jacques Barrot Vice President of the European Commission in charge of transport said: "This black list will keep dubious airlines out of Europe. It will also make sure that all air lines operating in Europe's sky are the highest safety standards. The European Union now has a coherent approach to banning airlines".

It should be noted that investigation processes of aviation accidents in Africa are slow hence reports are not released promptly by respective governments to determine reasons for the accidents which could be used to avoid other accidents occurring.

It is also worth noting that during the East African Consultative meeting on the Facilitation of Airport held in Kisumu, Kenya, in June 2007, the agencies responsible for security at Kenyan airports, particularly the police, airports authority and the civil aviation authority did not participate despite issues of *security* taking centre stage in the deliberations, yet the East African Community Secretariat sent representation. This scenario reveals that what the East African Authorities are attempting to address in their legislation is actually *safety* concerns as their priority.

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**Reasons why African airports are insecure and unsafe**

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A number of reasons may be advanced for the poor status of security and safety in African airports. First, political failures including unstable governments, civil wars and general lack of accountability of some governments in the region coupled with economic failures of many African economies are rendering it almost impossible to allocate enough resources to airport security and safety services. Second, poor planning by persons entrusted with running aviation authorities or government departments has resulted in lack of foresight and long term planning for adaptation to the latest recommended measures for aviation security and safety. Third, diversion and mismanagement of revenue raised through user charges paid by airspace and airport users for security maintenance leads to donor fatigue resulting in antiquated security screening equipment, radars and weapon/explosive detectors adding unto lack of proper training of security services personnel, poor working conditions and lack of recognition for aviation personnel that leads to general laxity at airports.

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**Vulnerability indicators**

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*State weakness*

In some African countries the jurisdiction of the state is weak hence state power including security cannot be properly exercised, this in essence leads to difficulties in the provision of security at airports not only in the affected state but also to airports that are recipient to its flights. Collapsed states such as Somalia are sources of refugees, illegal arms, and safe havens for fugitives and provide sanctuaries to terror groups like Al Qaeda and Al Ithad Al Islamiya that are high risk actors in the aviation industry. Somalia, widely considered a collapsed state on the eastern coast of Africa was said to be the source of the MANPAD missile used in the attempt on Arkia, the Israeli airliner, in Mombasa in November 2002. The terror operatives in both the Paradise Hotel and airport incident were reportedly trained in Somalia and traveled into Kenya using a combination of sea and overland routes.

*Laxity in implementation of security and safety procedures*

Stemming from lack of capacity by authorities, corrupt officials particularly the police, immigration, airport and aviation authority employees and custom officials, low staff morale and lack of training of personnel. Neglect precipitating in perimeter fencing at

most airports being breached with massive encroachment of airport authority land by informal settlements, hence posing a challenge to security and safety management. Obsolete navigation aids, firefighting equipment and lack of maintenance of existing equipment, lacking expertise for airline facilities since most of the airlines are European and Asian based while domestic based airlines consist of ageing fleets that are poorly equipped and maintained. Most countries in Africa lack the capacity to enforce sovereignty over their airspace due to lack of radar equipment incapacitated in most instances a non-existent air force, this leaves the states at the mercy of other African states with radar equipment, and foreign air forces as the case is in some francophone west and central African countries that rely on the French air force.

*Lack of political will*

Security and safety in the aviation industry by all standards is a major undertaking that involves massive mobilization of personnel and resources; it generally depends on the political goodwill of host governments. Political goodwill is also vital in attracting external funding, implementation of stipulated regulations and negotiations for financial support this is subject to political influence. In Africa, airport authorities and departments have to compete with other sectors of government for relatively scarce resources. Membership to international aviation associations such as the IATA and ICAO are political decisions which is usually backed with payment of proscribed fees, it is not uncommon to find African states in arrears of payment of required fees even to regional aviation bodies. This is attributable more to lack of political goodwill than to lack of funds[20].

*Existence of terrorist cells*

Modern terrorism is a fairly recent phenomenon in the region and stems from domestic instabilities, incapacity of local security organs at times intertwined with international terrorism. Terrorist cells seek to exploit weak links in the security chain. These groups, which are involved in the arbitrary use of violence may also seek to intimidate a people, state or government to give in to their demands. Widespread poverty amongst citizenry in the region also provides a fertile ground for recruitment of potential terrorists by both international and domestic terror networks[21].

**Implication of non-compliance with aviation security measures on national, regional and international peace and security**

The September 11 terrorist attacks in the USA evoked various dimensions of the sensitivity to the concept of air travel and aviation security. Interests and values in the aviation industry have changed since the realisation that the industry had a bearing on regional and international peace and security. In the wake of the 9/11 events measures at national, regional and international level, have been instituted to not only assure air travelers of their security but to protect the industry from premeditated attacks whose implications could be far reaching.

The ICAO and IATA have set safety and requirement standards that have to be met. In addition, the United States Federal Airport Authority and the Transport Security Administration have set minimum standards for engagement with US aviation. In Africa, despite efforts to meet the requirements, most airports and airlines are far from fulfilling the minimum standards. Countries and airlines have embarked on upgrading and infrastructural improvement. To illustrate how far the continent is from achieving the standards, to date, only South African Airways, Egypt Air and Ethiopian Airlines provide direct flights from Africa to the US[22]. Implications of non-compliance could be far reaching and they include:

**Terror activities and acts of unlawful interference**

The immediate impact on security will be the susceptibility of airports and airlines that use the airports, non-state actors who include individuals and organisations who participate, facilitate and fund terror activities will move to areas of non-compliance to take advantage of the week link in the defence chain. Given the proximity of Africa with the Arabian Peninsula, established networks from the Middle East are likely to move to Somalia and East Africa where the Al-Quaeda has established links with terror cells and local Islamic groups. In addition, the terror cells have been present in the region since 1994 when planning for the execution of the 1998 US Embassy bombings in Kenya and Tanzania were put in motion. Presence of the networks in the

region will lead to the politicisation and radicalisation of Muslim groups whose target usually are American and Israeli interests[23]. African states will continue to be isolated in the aviation industry and international power politics will exert pressure on the continent to conform to regulations. International pressure applied to authoritarian regimes such as Sudan, which has on several occasions declined to implement peace initiatives in Darfur, and collapsed states such as Somalia will not prevent terrorists from shifting bases to such sanctuaries. The availability of such weapons like shoulder-launched missiles that are associated with terror groups will continue to be a threat to aviation. The continent will continue to be a major player in global terrorism owing to the perennial conflicts.

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| **Increased levels of poverty and instability** | Air transport has a growing impact on Africa's economies as well, generating about 470,000 direct and indirect jobs across the continent, and contributing over US$ 11.3 billion to African GDP. If we add air transport-dependent tourism activities, number of jobs the contribution hits some US$ 55.5 billion. Tourism is a driving force in a number of African countries including Kenya, Mauritius, Morocco, Tunisia, Egypt, Ghana, Senegal, Tanzania as well as South Africa. An amazing 20% of all tourism jobs in Africa are directly related to airborne tourists[24]. The non-compliance with aviation security measures would mean loss of livelihoods for those dependent on aviation, and this would in turn increase levels of poverty. High poverty levels, mostly in North African states of Morocco and Tunisia would translate to more of the countries citizens migrating north to Europe due to their proximity to the continent. The European Union will have to deal with hordes of illegal immigrants in addition to the current immigrant population that is already exerting pressure on resources and racial disharmony as epitomized in the recent riots in France. Poverty is fundamental to the factors that give rise to unrest, it is a weapon of the weak who will be prepared to be recruited or because they have assimilated the ideology of their mentors, this is the likely scenario in Egypt where increased poverty levels occasioned by a drop in tourism will lead to dissent against the authorities, indoctrination of the populace by pro-Islamic groups with consequences felt in the Africa, Arab and Islamic countries. |
| **Homegrown terror and international links** | Non-compliance with international aviation security regulations will mean exposure to acts of unlawful interference will also extend to domestic flights, this will push local militant groups to identify themselves with terrorism as a way to push for their agendas. Homegrown terror groups will increase the intensity of operations to extend attacks to aviation facilities in order to remain relevant.

With the success of such attacks – thanks to the relative vulnerability of aviation in the continent occasioned by non-compliance – impetus for intensified recruitment of the terrorists will have been provided. Insurgency in the region will move a notch with militants incorporating such acts like hijacking and attacks on aviation infrastructure. The groups will also forge alliances with international terrorists who will be too willing to find associates in countries that have easy targets. With this kind of alliances, the level of instability in African states will worsen given the enhanced capacity of insurgents who will have access to funding by terror foundations through the adoption of fairly sophisticated means to achieve their intended objectives. Militants such as the Al-Itihad al-Islamiyya, a side-kick of the Al-Qaeda, continue to be a net exporter of terror in the Horn of Africa with countries such as Djibouti, Kenya and Ethiopia likely to witness increased incidences of unlawful interferences in their aviation industry. In West Africa, groups such as the Movement for Emancipation of the Niger Delta and a plethora of militant groups fighting against the injustices in the Nigeria oil sector, who specialize in kidnapping of foreign workers for ransom and disabling of oil infrastructure could extend their attacks to hijack of airlines and aviation installations in pursuit of their causes. |
| **Upsurge in criminal activities** | International criminal rings will not hesitate to shift their bases to jurisdictions where enforcement is lax due to the non-compliance to international aviation security regulations. African airports allow for a relatively easy flow of immigrants, arms and crimes compounded with the problem of corrupt law enforcement at frontiers. Non-compliant airports are more likely to act as transit points for illicit drugs destined for overseas. |

Traffickers are currently using African ports and airports as a transit for drugs such as cocaine from South America and heroine from Asia destined for the European market since Africa is least suspected to be the source of such drugs secondly the route from the producing zone through Africa is indirect with the drugs being repackaged or dispatched after being kept in storage to ensure that the coast is clear. Human traffickers and arms smugglers likewise will shift operations to non-compliant facilities, leading to a rise in number of criminal gangs and introduction of the extortionist culture. These gangs seek to weaken law enforcement by either circumventing the law or compromise through outright bribery to the police and judicial officials.

Associated offences such as kidnappings, money laundering and murder with violence becoming the preferred method of conflict resolution further eroding public confidence in law enforcement, arm traffickers and dealers will ensure the countries are awash with weaponry to fuel anarchy. It is an open secret that criminal minds do support and finance political parties in most parts of Africa. Using their ill-gotten wealth, criminal rings will finance both sides of the political divide as an insurance that it remains in good books of the victor. As stated above, non-compliance with international aviation security regulations might trigger the continent's instability: collapse of economies and subsequent failure of state apparatus could usher in the era of coups and counter-coups with more and more African countries categorized as pariah states.

The misuse of civil aircraft as weapons of mass destruction and other terrorist acts which are similar to acts of unlawful interference that have been committed against civil aviation are now posing greater challenges to the international community than ever before. There is therefore an urgent need to meet the obligations brought about by unlawful interference in international civil aviation and to take strong measures to counter potential threats. In Africa, aviation security requires urgent and practical attention by:

*Legislation*

Currently, there is a lack of national security programs that define each state's general aviation security policy regarding the distribution of tasks, prevention and response measures, and making relevant national security information available to interested partners. Several pertinent international legal instruments have not been ratified, notably the Supplementary Protocol to the 1988 Montreal Convention on acts of violence at airports, and the convention on marking plastic explosives for the purpose of detection. There is also an absence of amendments to criminal codes that make unlawful interference perpetrated on a state's territory a punishable act. Moreover, there are no airport security programs that include improvements to standard operating procedures, a crisis management plan. There is also no legislation focused on cargo, mail, parcel, and store security.

*Access control and airport perimeter fencing*

Most airports in Africa have weak access control measures. It is commonplace to see persons and their livestock from neighboring settlements crossing from one side of the runway to go to a settlement on the other side. Wildlife is also a major concern to aviation especially in areas where perimeter fences have been violated and animals able to access the runways, a fact complicated by some airport authorities who have leased part of their land to ranchers whose activities could be of security concern.

Airport perimeter fencing is the first step in securing the airport and vital installations from unauthorized access, fencing also prevents encroachment of airport land such as landing funnels thus enhancing not only safety of aircrafts but also reducing the susceptibility of unlawful interferences. Airport perimeter fencing should be reinforced with electronic surveillance equipment that should go hand in hand with regular security patrols; airport authorities should take full control of airport land this includes the acquisition of necessary documentation

for the land to avoid irregular subdivisions. Governments should take a keen interest in the land use development pattern of land adjacent to airports to ensure conformity with requirements that enhance aviation safety and security.

Access control should be enhanced with the introduction of structural organisation and management of security and safety at airports, these include the development of a national aviation security programme to deal with the issuance of staff access cards, vehicle pass systems and putting up of appropriate signs and notices. Such measures will ensure such incidences like that of the infamous Arthur brothers, who gained access to the VIP lounge at the JKIA Nairobi and held a press briefing to the embarrassment of the government and airport authorities, accessing restricted areas of airports.

*Training of security personnel*

Training is a vital part of air transportation's fight against acts of unlawful interference and terrorism, yet here too, many governments, airport authority administrations and airline managements fail to ensure their employees are adequately prepared for the role. This issue remains a major problem in Africa, especially since most African countries lack national training programs for partners involved in aviation security, there is also no validation and evaluation system for aviation security training to match to international standards. Few countries in Africa have made an effort to meet national training requirement for aviation security a case in point is Ethiopia whose system is highly integrated encompassing all aspects of aviation security stretching from diverse fields such as catering to passenger screening staff in all this areas have undergone the required security training to detect acts of unlawful interference. South Africa has established the Port of Entry (PoE) Police that is entrusted with security and law enforcement at all frontiers. This force is specifically trained to deal with frontier offences and protect the republics frontiers, officers from the POE Police are dedicated to frontier services and are not transferable to other police wings.

*Security screening equipment and procedures*

Use of hi-tech security equipment is necessary for activities such as explosive-detection systems, explosive trace detectors, computer-assisted passenger screening systems, and so on. Screening procedures and methods must contain, at a minimum, requirements for the control of screened passengers in departure concourses, sterile areas, security restricted areas, waiting areas, passenger gangways, apron movement vehicles, movement areas, aircraft stands and aircraft. The standards must also include measures to ensure that if screened passengers and/or their cabin baggage come in contact with unscreened persons or articles that they are re-screened in accordance with approved methods. The state should also consider providing guidance concerning any requirement to sweep the sterile area, as appropriate. The challenge posed here is treatment of VIPs especially senior government officials including ministers who decline to go through the screening procedures, such acts are not uncommon at most African airports, apart from setting wrong precedence such acts also negate the purpose of the screening exercise.

*Technology*

Instead of imposing burdens on passengers who are required to report many hours before their flight for security screening, African airports could adopt a better approach of making use of improved technology, such as the following:
- more-sophisticated luggage-screening devices, used on every single bag;
- new people-scanners that can detect even ceramic knives under people's clothes;
- biometric systems for access control to secure areas at airports, to ensure that only those individuals authorized to go there can actually do so.

These kinds of devices would be far more useful than today's inane security questions and more requirements for passengers that will mean waiting in even

longer lines. Technology should also extend to perimeter fencing, immigration/ passport/visa document screening/verification and cargo screening; introduction of technology should also go hand in hand with training in tandem with the Aviation Security Training Packages (ASTP).

*Enhancing capabilities of security forces*

Enhancing the capabilities of security forces and introducing additional structures and measures to promote cooperation between the security services at local and national levels, often made possible through coordination centres on matters touching on aviation security. It is essential to equip security forces with the necessary tools to tackle such incidences like plane hijacks, biological terror attacks, aviation disasters in addition to negotiation skills. This calls for adequate budgetary allocations for training and acquisition of necessary hardware, refocusing and reorientation of security personnel, enhanced information sharing at both national and international levels and greater use of intelligence to combat terrorism and other unlawful acts. The National Civil Aviation Security Programmes as stipulated in Annex 17 of the Convention on Civil Aviation should be part of training for all law enforcers at all airports.

*Improving border and control measures*

Airports are amongst frontier pathways into the country, lack of security at the airports leaves the country vulnerable to illegal immigrants, drug- and other smugglers, criminal gangs and worse, terrorists. Security has become a primary concern of nations especially after the 11September 2001 terrorist attacks aviation security has become a topic of increased interest. Funding requests and enforcement proposals were reconsidered as lawmakers began reassessing how national borders must be monitored and protected. Africa is in need of reorganization plans to increase frontier security effectiveness. These include: introduction of additional control measures over immigrants, asylum seekers and foreigners; provision of tamper proof passports; stringent rules in the issuance of visas, work permits; fortification of ports of entry including the erection of concrete barriers; and integration of immigration, security, intelligence and customs services in detection of unlawful activities at ports of entry and the interlinking of frontier posts for easy management of information on matters of aviation security and monitoring of immigrants.

*International cooperation on terrorism and prevention of acts of unlawful interference*

It is an imperative to enhance international, regional and sub regional cooperation on terrorism and prevent acts of unlawful interference. To achieve these goals, nations need to ratify and adopt international conventions and protocols and incorporate into national legislation. Enablement of cross border cooperation, including mutual legal assistance appropriate information pertaining to their national civil aviation security programme and extradition of fugitives to deter free movement of international criminals, simplify procedures in instances of acts of unlawful interference, ensure that requests from other states for special security controls in respect of a specific flights or specified flights by operators of other states are considered.

*Enhancing intelligence measures*

Enhancement of intelligence measures in sharing information on aviation security threats between states, the development of lines of communication, both formal and informal, between intelligence and AVSEC officials to assists in the rapid exchange of information. This will be particularly helpful when information relating to increased levels of threat needs to be exchanged; one formal method of establishing this communication link is through the use of a bilateral aviation security clause or other written agreements. Access to sensitive security information, such as national and airport security programmes, be restricted to those persons who require such information in the performance of their duties,

on a "need to know" principle, where the information is particularly sensitive or received with a high level of security classification, care is taken to avoid overprotection as this may preclude distribution to persons or organizations that do have a need to know.

No one agency, airline, or government has all the answers for improving aviation security. Therefore the way forward must be through broad partnerships between governments and stakeholders in the aviation industry in which no country is left out. If one country is left out then the global security chain will be weakened. African countries must foster the immediate development and publication of a National Civil Aviation Security Programme that focuses on a number of key chapters in the National Security Programme (NSP) Security Manual, enabling the publication of subsequent texts and procedures. In addition, African countries should work together to upgrade aviation security through cooperative training, and should develop information exchange mechanisms to evaluate threats and coordinate on cases of unlawful interference. Countries throughout Africa should also create a permanent, autonomous, and centralized unit of the programme. Such a structure will assume special importance within the framework of the ICAO global program of audits. Voluntary funds will provide an adequate and stable source of funding for this mechanism until such time that funds can be sought through the regular programme budget. A civil aviation security charge would also generate revenue exclusively for the enhancement of security. The unit's objective should be to bring together all private and public entities concerned with strengthening aviation security in the region. A mechanism for aviation security evaluation and technical cooperation, which could be developed into a global system, should be initiated under the auspices of ICAO. In addition, AVSEC audit programs should not be limited to departments of civil aviation audits, but extended to the evaluation of airport security levels and the implementation of Annex 17 and Recommended Practices.

As acts of unlawful interference continue to pose a serious threat to the safety and security of international civil aviation, the ICAO continues to pursue policies and programmes designed to prevent such acts. Aviation security is an immediate concern, not only to the civil aviation community, but also to the public. We must remind ourselves that aviation security is a collective responsibility, involving various state agencies, airport authorities and airline operators. This also highlights the need to ensure the maximum level of cooperation between, and integrity of all role players in the aviation security chain.

Quite often we tend to forget that aviation safety has as much to do with safety in the air as it does on the ground. After all, what goes up must come down! We must bear in mind that many airports in Africa are surrounded by large, frequently informal settlements, where the majority of people are poor. The flight paths of aircraft in the environs of airports, the areas where most safety related incidents take place, including crashes on take off or landing, also track across largely poor but densely populated areas. Too often, air accidents involve casualties and destruction on the ground too, and so air safety is also actually a concern for communities on the ground. This is important to remember in a context where too often, expenditure on what appears to be remote but expensive infrastructure and technology is sometimes seen as taking bread from the mouths of the poor[25].

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3   Associated Press 2007 *New agency aims to boost Africa's air safety* [Online] Available from http://www.msnbc.msn.com/id/19070704/ (accessed on 20 December 2007)

4   *Ibid*

5   2007 *Making a Safe Industry Even Safer* – IATA Releases 2006 Safety Report. IATA Press Release 16 April

6   See in the case of Nigeria measures being taken to address aviation safety and security since. (Demuren H. 2006 Nigeria's way forward *Journal of Flight Safety Foundation*. (October 2006): 29 – 32)

7   The Afro-CAA has been established by the African Union as a means to stem 'the alarming rate of accidents, hull losses and fatalities in the African continent when compared to statistics of other areas of the world'.

8   Standard 3.1.1 states: Each Contracting State shall establish and implement a written national civil aviation security programme to safeguard civil aviation operations against acts of unlawful interference, through regulations, practices and procedures which take into account the safety, regularity and efficiency of flights.

9   Bergen L.P. 2006 *The Osama Bin Laden I Know*. USA Free- Press, Simon & Schuster Inc.

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13  Peter Mwaura, *The Daily Nation* 12.05.07

14  Bergen L.P. 2006 *The Osama Bin Laden I Know*. USA Free-Press, Simon & Schuster Inc.

15  *Ibid*

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