

TCAA Bulletin



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TANZANIA PARTICIPATES IN THE ICAO's 41ST ASSEMBLY

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HOW FLIGHT DISPATCHERS ENSURE FLIGHT SAFETY

A flight dispatcher, also known as an airline dispatcher or a flight operations officer (FOO), is a licensed airman who shares flight planning, releasing, and flight following responsibilities with a pilot in command (PIC). (Pg. 24)



THE DRONE CODE

STAY

- COMPLIANT
- SAFE
- AWARE

- Be responsible
- Observe your drone at all times
- It is illegal to operate drone without authorization
- Remember to fly below 400ft (120m) Above Ground Level
- Don't fly near airports and restricted areas

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A WORD FROM THE DIRECTOR GENERAL TCAA

“

Let me take this opportunity to join hands with Tanzanians and extend my deepest sympathies to the families and friends of the passenger and crew involved in this tragic accident.

**Hamza S. Johari
Director General TCAA**

Greetings and Warm welcome to yet another edition of TCAA Bulletin which covers the period between July to December 2022.

The year 2022 for us is a period with a mixture of fortunes and bad luck in the aviation sector. It started with hope as we were recovering from COVID-19 aftermath, witnessing the aviation sector striving to bring things back to normal on one hand, on the other hand after a long time our airspace has recorded a huge aircraft accident.

Precision Air flight number PW 494 with registration number 5H – PWF from Dar es Salaam to Bukoba on 6th November 2022 at 08:45 hours with 39 passengers and 4 crew on board was involved in a landing accident. The aircraft landed in water short of the runway about 500 meters before the threshold.

The investigation operation is in progress and the Authority will keep you updated on further information and proceedings. Let me take this opportunity to join hands with Tanzanians and extend my deepest sympathies to the families and friends of the passenger and crew involved in this tragic accident.

However, a lot has been achieved during the last six months, representing The United Republic of Tanzania the Director General TCAA Hamza S. Johari was elected as the new chairman of the African Flight Procedure Programme (AFPP) in a meeting held in Dar es Salaam, a position which was prior held by former Kenya Civil Aviation Authority (KCAA), Director General Captain Gilbert Kibe.

In continuing to improve the air Transport sector, on 18th November, 2022, TCAA was recognized as a good tax collector in Ilala tax region by the Tanzania Revenue Authority (TRA). Also TCAA emerged the 3rd winner for the Regulatory Authorities in the best presented financial statements for the year 2022. The award was presented on November 30th, 2022 by the National Board of Accountants and Auditors (NBAA).

Equally, TCAA in recognizing great contribution of human resources in strengthening good working environment for its employees, TCAA emerged 1st runner-up in the best employer of the year 2022 public sector best employer category during the Tanzania Employers Association (ATE) awards on December 02nd, 2022.

Further more, the Civil Aviation Training Centre (CATC) joined the network of 36 ICAO Aviation Security Training Centre (ASTC) around the World in July 2022 following successfully completion of ICAO assessment in April 2022.

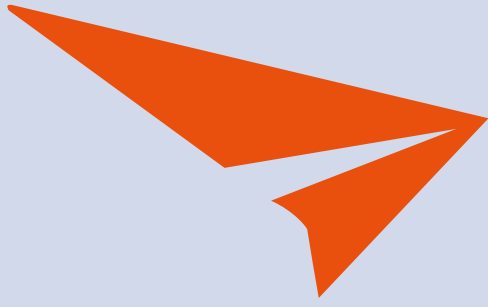
This issue comprises of various aviation related articles that will give you more insights and highlights of what has transpired in six-months period. Let me take this opportunity to wish you all best and an enjoyable reading!

With this note, I wish you a MERRY CHRISTMAS AND HAPPY NEW YEAR 2023.

**Hamza S. Johari
Director General TCAA**



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Tanzania Civil Aviation Authority

OUR MISSION

To ensure safety, security and regularity of civil aviation in Tanzania through effective oversight, provision of efficient air navigation services and training while maintaining quality, protecting the environment and safeguarding the interest of stakeholders.

OUR VISION

Propelling Tanzanian's Civil Aviation system to excellence in Africa and beyond.

OUR MOTTO

Aviation Safety and Efficiency. Our Commitment. In Partnership

OUR VALUES

- * Integrity
- * Morals
- * Professionalism and customer focused
- * Accountability and Efficiency
- * Commitment Transparency
- * Team work



TANZANIA PARTICIPATES IN THE ICAOs 41ST ASSEMBLY

Aviation and Innovation is the theme of the ICAOs 41st Assembly which is taking place at Montreal, Canada from 27 September 2022. This Assembly, which will run through to 7 October 2022, is expected to establish the worldwide policy of ICAO for the next three years. Having been well attended by the ICAOs 193 Member States including the United Republic of Tanzania, this Assembly which is being convened for the first time after the great impact that the aviation industry suffered in the past two years following the COVID-19 outbreak, is reconnecting the world by focusing on NetZero carbon emissions, post COVID-19 resilience and the critical role of innovation.

During his opening remarks

on 27 September 2022, the ICAO Council President, Salvatore Sciacchitano highlighted the fundamental role of ICAO in supporting the safe, secure and sustainable development of international air transport, underscoring the power of aviation in enabling the social, economic and cultural development of the Member States through mobility and connectivity.

The President alluded that the impact of COVID-19 on aviation reminds us to always have a resilient industry bearing in mind that it serves as a fundamental enabler of other sectors of economy. He added that this year's theme, "Aviation Innovation and Resilience" is crucial as we practically need to deploy a lot of innovations so as

to attain a resilient aviation system to avoid impacts of uncertainties that may come across.

The agenda of climate change was raised, and it is being raised by Ministers representing countries in the Assembly through their respective country statements. There is also a number of working papers on these subject matters that are expected to be discussed during the Assembly. This debate is hot because of the fact that aviation-related activities contribute immensely to global climate change through emissions mainly resulting from air transport activities. This triennial meeting was reminded that we should not relax now that we have managed to recover the industry from

the impact of COVID-19 to a great extent because the challenge of climate change is likely to bring more destructions than the pandemic. Attainment of achieving NetZero carbon emissions was therefore stressed.

In his statement, the Director General of Tanzania Civil Aviation Authority, Mr. Hamza Johari, pointed out that, despite the fact that Africa's population constitutes close to 16% of the global population, the continent's contribution in terms of air transport is below 3%. He therefore urged African ICAO Member States, under the African Civil Aviation Commission (AFCAC) to always unite in raising one strong voice through the Assemblies so as to optimize the benefits of aviation which are huge, given the fact that Africa has potential for growth in aviation compared to other Continents. He underlined that our solidarity must be exercised from the process of elections of the ICAO Council Members for the coming triennium. African Member States for both the second and third part, must be voted for in order to increase the visibility of Africa in the Council and indeed to have a strong representation of the peoples of Africa in the process of setting policies of running aviation system globally.

The Director General of Tanzania Airports Authority

(TAA), Mr. Mussa Mbura, disclosed that, TAA as an airport operator being in the country that is a Member State of ICAO, is obliged to comply with guidelines which are a product of the Assembly. He underlined that airport infrastructures is one of the agenda items that will be discussed through the Technical Commission, adding that the presence of Tanzania physically and through AFCAC, African interests are guaranteed to be taken into account so that we improve competitiveness in airports in the course of supporting air transport in the country.

The format of the discussions now that the opening and basic agenda of the Executive Committee have been discussed, the Assembly will work under the following Committees through to the last day: Executive Committee in which Tanzania will be represented by Hon. Ambassador of Tanzania to Canada, Dr. Ulusubisya Mpoki and Mr. Dossa Luhindi, the advisor on international matters from TCAA. The Director Economic Regulation, Mr. Daniel Malanga (TCAA) and Ass. Director of Air Transport Services (Ministry of Works and Transport), Mr. Biseko Chiganga, shall represent the country in the Economic Commission and Executive Commission depending on the agenda and Ms. Maria Memba who is the Director Legal Services of TCAA shall

be in the Legal Commission and sometimes Executive Commission. The Technical Commission will be running in the good presence of the Tanzanian experts on air navigation services (Ms. Flora Mwanshinga, Director of Air Navigation Services TCAA) and safety matters (Ms. Clara Mpili, Acting Director Safety Regulation TCAA). These experts have some papers in the Executive Committee in which they will also attend accordingly. The Executive Committee is also meant for the Director General of TCAA, Mr. Hamza Johari and Director General of TAA, Mr. Mussa Mbura. The head of the Tanzanian delegation is Hon. Prof. Makame M. Mbarawa (MP), Minister for Works and Transport.

ICAO Assemblies take place once every three years. This is the supreme organ that brings together the aviation global community for the purpose of setting the structure of aviation from which the ICAO Secretariat formulates guidelines on international civil aviation for the Member States of ICAO.

The agenda of climate change was raised, and it is being raised by Ministers representing countries in the Assembly through their respective country statements.

TANZANIA SIGNS A BASA WITH EGYPT



By Daniel N. Malanga.

Tanzania through the Ministry of Works and Transport, as an effort to recover from the Covid 19 Impacts, duo experts of Bilateral Air Services Agreements (BASAs) negotiations, met in Cairo, Egypt on 26 and 27 July 2022, to review the current BASA between the Governments of the United Republic of Tanzania and the Arab Republic of Egypt to make it more modern. This showcase a commitment of the country not to be left behind the post-COVID direction of the world of aviation industry.

Mr. Hamza S. Johari, Director General of Tanzania Civil Aviation Authority, who was the Head of the Tanzanian delegation of the BASA negotiations during

the closing session after the successful though tough discussions of experts, underscored that in today's aviation system, cooperation between airlines in the course of providing air transport services is a powerful strategy for airlines' survival. He thus urged Egypt Air and Air Tanzania who were invited in the negotiations as observers, to take advantage of the new bilateral framework which provides for cooperation in various ways.

Apart from the cooperation provision, other many areas were the subject matter in the discussions including the issue of Tanzania to allow a new Egyptian airline (Air Cairo) to operate between Egypt and Tanzania; The designated airlines of both sides are entitled to operate

unlimited frequencies per week for passenger services without any restriction on the capacity and aircraft type. Previously, only 7 frequencies were allowed. Other areas were, the airlines of both sides are entitled to operate three weekly All-Cargo flights instead of the previously agreed one, without any restriction on the capacity and aircraft type; The code-share arrangement was reviewed to allow for two or more designated airlines from the same country to code share and operate into the other country. The previous BASA had not mentioned this flexibility; and a designated airlines of either country is entitled to combine points in the territory of the other. In this respect, the Head of the Tanzanian delegation

encouraged Egypt Air to combine Dar with Zanzibar in operating its flight from Cairo, but without exercising cabotage.

However, the negotiations were not easy when the two delegations of experts embarked into discussions on the request by the Egyptian Government to consider the exercise of unrestricted fifth freedom traffic rights in intermediate points and points beyond the agreed destinations.

Tanzania was tough despite the hot session that the negotiations room (the Egyptian Civil Aviation Authority House) was found itself to be in. The negotiations became Business to Business matter, every part putting the national business interest forward. Tanzania declined the request because it means a lot to the survival of Air Tanzania and other local operators, which are not as strong as the Egyptian airlines and therefore can not be put in the same environment of competition – if this is allowed, our local operators will definitely be affected, and this may lead into weakening them.

The Egyptian delegation's request on fifth freedom traffic right was aimed at allowing Egypt Air access of the markets out of Dar to Nairobi, Harare, Moroni, Kinshasa, Lilongwe and Johannesburg, to start with. By exercising this strategic freedom of the

air, the Egyptian delegation was requesting that Egypt Air operates from Cairo to Dar and drop passengers (third freedoms of air), carry passengers at Dar and drop them at destinations of other countries before carrying passengers out of Dar to Cairo (fourth freedom traffic right).

It is the expectation of the Government that airlines of both countries will take advantage of this beautiful bilateral arrangement especially the cooperative arrangement in operating scheduled air services of both passengers and cargo. The Government through Tanzania Civil Aviation Authority is duty-bound to facilitate smooth provision of commercial air services between these two sisterly countries both of which are members of the International Civil Aviation Organization".

Now that the negotiations have been completed, the next stage is to sign the Memorandum of Understanding so that what has been agreed upon is reflected in the new BASA. When this is completed, the BASA will be signed by relevant authorities of the two countries and date of Entry into Force determined pursuant to the institutional internal procedures applicable by each country and the BASA itself.

This BASA negotiations event, happened only 30 days before which the experts met in Mayotte

Islands to modernize the BASA between Tanzania and France. Review of BASA review at this time of the Recovery is paramount because the industry has been disturbed by severe by the impact of the COVID-19 pandemic, the situation that calls for rethinking of some of its structures.

Rapid Recovery of air transport services from severe turbulences that it has faced in two years from early 2020 following the COVID-19 outbreak, is what the aviation industry is cherishing today. Just like any other part of the world, the aviation industry in Tanzania has been critically affected by the outbreak. The industry started to see the light at the end of the tunnel in mid-2021 when countries around the Universe were increasingly opening-up their respective airspaces and relaxing COVID-related measures including Lockdowns and Curfews. As we move ahead, we see the light increasing and indeed the Recovery of air transport is clear to the world, clear to Africa and equally clear to Tanzania.





TURKISH AIRLINES RESUMES ITS DIRECT FLIGHTS INTO KILIMANJARO

By Dickson Mulashani

After suspending its flights into many countries including the United Republic of Tanzania more than two (2) years ago, Turkish Airlines, on 23 June 2022 at 0120 hours, touched the runway of Kilimanjaro International Airport (KIA) in a bid to resume its scheduled flights between Istanbul (Turkey) and Kilimanjaro/Zanzibar (Tanzania). That was indeed a great news to the aviation community in the United Republic of Tanzania, especially at this trying time whereby the world is in the recovery stage of air transport industry after the severe impact following the outbreak of COVID-19 since December 2019.

The airline, using its A330-300 aircraft with 289 seating capacity, will fly the robin-round flight (Istanbul-Kilimanjaro-Zanzibar-Istanbul), 4 times a week, i.e. Tuesdays, Thursdays, Saturdays and Sundays, to

begin with.

Speaking to the media and the public during the inauguration ceremonies of the Turkish flight resumption held in the mid-night just after the landing of the maiden flight, Hon. Atupele Mwakibete (MP), the Deputy Minister for the Ministry of Works and Transport, who was the Guest of honour of that great night, expressed his total excitement for the confidence that the Turkish Government has shown to the Government of the United Republic of Tanzania by allowing the Turkish Airline's flight resumption and allowing it this time of need. He pointed out that this comes at the right time given the fact that H.E. Mama Samia Suluhu Hassan has recently inaugurated the Royal Tour Programme in the United States of America and later Tanzania. Coupled with the Government great will to promote tourism and Trade, the resumption of

the Turkish flights is indeed paramount.

The Guest of Honor, undelined the importance of improvement of our preparedness in handling tourist influx as a result of the Royal Tour Programme whose implementation requires great attribute of air transport.

On her part, the KADCO chairperson, Dr. Natu Mwamba, said that the resumption of the Turkish flights into KIA, will adversely contribute the popularity of KIA in terms of handling tourists and therefore bring more tourists, not from Turkey only, but from other places in the world given that Istanbul is one of the greatest flight hubs globally. "This will greatly support the implementation of the Royal Tour Programme as air transport is a critical component in the implementation of the Programme", Dr. Mwamba said.

The Board chairperson further alluded that, apart from the tourist-related benefits of the flight resumption, KADCO will improve revenues because of the increased flights and passengers that will be handled at KIA. Further, Dr.

Mwamba pointed out that the decision by the Turkish Government of the flight resumption will improve diplomatic relationship between the Governments of the United Republic of Tanzania and the Republic of Turkey.

The message to the public was concluded by the Turkish Airlines Country Representative who assured the travelling community safe and reliable services by Turkish Airlines all the time.

THINGS YOU MAY NOT KNOW ABOUT THE BILATERAL AIR SERVICES AGREEMENT (BASA)

By Rashid Mngoya



Commercial international scheduled flight operations of any country through airspace are governed by what is known as BASA. Generally, BASA is negotiated and contracted between two contracting states.

BASA allows the designated airlines of the contracting states to operate the commercial flight that covers the transport of passengers and cargo between them. Currently, the United Republic of Tanzania enters BASA with 78 contracting states.

As a rule of thumb, BASA is negotiated around four major basic principles.

1. Traffic rights or freedom of the air in a reciprocal manner.
2. Designation
3. Frequency
4. Capacity/type of aircraft

Traffic rights

Commercial aviation rights grant a country's airline the privilege to cross over or enter and land in another country's airspace or territory to transport passengers or cargo, separately or in combination. Basically, there are 3 freedom traffic rights to be negotiated and contracted, which are the third and fourth, and fifth freedom traffic rights.

Designation

States under BASAs negotiate on the number of airline companies that may be designated to operate between two states in reciprocal manners. If the airlines want to operate in another country, an airline's home Civil Aviation Authority will communicate with the respective country via diplomatic means. Normally, states agree on single, dual, and multiple designations which will be used by the airline's state registry at any time they want to operate.

Frequency

States under BASA agree on the number of times airlines can operate per week. For example, if the frequency allowed is 7 and the designation is single, it means that there will be a daily flight from Monday to Sunday. If the permitted frequency is 7, and the designation is dual or multiple, airlines will have to share the frequency.

Capacity

When the two states agree on the type of aircraft to be used in the operations between them. Normally, they may limit aircraft types per route on a reciprocal basis.

Process of Bilateral Air Service Agreement

The process or step involved in the BASA agreement between two contracting states.

Local Consultation Meeting

The potential initiator has numerous determinations to make internally and come up with a general conclusion for the National interest before requesting a contracting state into BASA. Typically, are composed of civil aviation experts, airlines, airport authorities, foreign affairs, Attorney General's Chambers, and other aviation stakeholders and interested parties.

The delegation or negotiating team

These are the officials of the relevant contracting state meeting with another contracting state for BASA negotiation.

Usually chaired by designated civil aviation or foreign affairs or ministry of transport officials. When the consultation takes place outside the home territory, an embassy official is likely to be on the team. In some states, officials of relevant organizations will represent groups such as airlines, airports, cities, and labor.

The most fundamental determination that could occur in BASA negotiation

A formal consultation between two contracting states may possess the following attributes. Some consultations may possess attributes of more than one type; however, certain attributes are likely to predominate.

Initial negotiation

The initiating party seeks to establish a first-time air transport agreement with another party (entering into an entirely new agreement) to establish new market access with another state.

Renewal negotiation

The initiating party seeks some mutually beneficial alteration in an established agreement, such as a mutual change in agreed capacity, or the addition of an aviation security article.

Dispute resolution consultation

The initiating party seeks normalization such as conformity of a situation to what that party perceives as appropriate under their agreement.



Qatar Airways operates scheduled flights on a BASA basis

WHO IS THE REGULATOR?



Any state in the world set minimum standards in a specific field of activity or operations to be undertaken by users within its territory in its exercise of sovereignty over that territory. A state assigned a specific regulatory function to a body or agency under the legislative act to set standards, oversee, control, and enforce those standards to be applied to certain activities or operations as applicable by the law. A state entity assigned for a regulatory function is known as a regulatory authority or regulatory agency, or simply a regulator.

The regulatory system consists of a set of legal instruments, rules, and procedures with delegated power. The primary role of regulatory authority is to take the necessary actions to enforce the laws within their jurisdiction. Government regulation of aviation is an excellent example of a regulatory authority. The Tanzania Civil Aviation Authority (TCAA) exists to make air travel safe and effective under applicable rules and regulations.

A state becomes a member of the international regulatory body by signing and ratifying the international convention and protocol and accepting it to the domestic legal framework. In the transport industry, there are various international regulatory authorities, which are responsible for a specific mode of transport.

- i. International Civil Aviation Organization (ICAO) for air transport.
- ii. International Maritime Organization (IMO) for sea transport.

Main functions of regulatory authority

Regulatory regimes vary by country and industry. Regulatory authority are typically charged with overseeing an industry, intervening only when there is a reasonable suspicion that a regulated company may not be complying with its obligations. Under such a regime, regulatory agencies typically have powers to:

Licensing, certifications, and permits.

Authority issues licenses and permits to the company or natural person entering the business or services and certifies if they meet the minimum requirements required for the business or services requested for.

Monitoring the performance of the regulated sectors.

Including levels of investment, availability of safe, quality, standards of services, and efficiency of

production and distribution of services.

Establishing minimum standards.

Authority set technical, safety, and quality standards and requirements to be followed by the regulated services and provides criteria against which violations of the law can be determined.

Monitoring Compliance.

A continuous process to ensure the regulated services comply with all policies and procedures as stipulated in the license or permits and communicate the findings of its investigations. If the regulated company is not in compliance with its license or permits obligations or the law, the regulatory authority may be empowered to:

- i. require that administrators of the regulated company explain their actions.

- ii. undertake enforcement action, such as directing the regulated company to comply through orders, imposing financial penalties, and/or revoking its license to operate.
- iii. Sanctioning entities found to be in non-compliance.

Facilitate resolution of complaints and disputes.

Authority set procedures for handling disputes submitted by the consumer (complainant) when is dissatisfied with services rendered by the operator. Authority handles the complaints amicable between the complaint and complainant.

Key principles for the regulator

Integrity

Strict rules covering the behavior of decision-makers should be in place to preclude improprieties or any conduct appearing to be improper. Corruption is the one that undermine the regulatory authority.

Independence

Regulators should, by law, be free to make decisions within the scope of their authority without having to obtain prior approval from other officials or agencies of government. They need to be adequately away from short-term political pressure.”

Transparency and Public Participation

The entire regulatory process must be fair and allow views and opinions from the stakeholders during the formulation of the regulations.

Completeness and Clarity of Rules

The regulatory authority, through laws and rules, should provide stakeholders the clear and complete timely advance notice of the principles, guidelines, expectations, responsibilities, consequences of misbehavior, and objectives that will be pursued in carrying out regulatory activities.

Requisite Powers

Regulatory agencies should, under the law, possess all powers required to perform their mission.

Accountability

Regulators need to be held accountable for their actions.

Proportionality

Regulatory intervention in the sector should be proportionate to the challenges the regulators are addressing.

Characteristics that enable the regulatory authority to be effective in undertaking its critical responsibilities

Accessibility

It is the need for the regulator to be proactive in creating opportunities to listen to and consider the views of stakeholders through regulatory actions such as licenses, tariffs, and other regulations and comments upon proposed regulatory actions. Public stakeholders meetings on regulatory matters for the express purpose of providing an opportunity to see the regulatory process in action. This help gains greater respect for its institutional value and achieves the objective of institutional access.

Reliability

Issues brought to the attention of the regulators and their staff must be addressed in a timely and professional manner and extant rules and regulations must be followed and applied fairly to all operators. Each member of the regulatory team helps to build confidence in the regulatory process by focusing on the objective of achieving an effective conclusion to each matter brought to the authority. The regulator must be away from bureaucracy because it slow down the authority to implement their duties in a reliable and fairly manner.

Flexibility

Regulations and processes should be reviewed continuously to ensure they are still appropriate for the current economic environment. Events and economic situations evolve and the regulator should be prepared to adapt regulations and processes to meet evolving needs. The aim of the regulator is to ensure the sustainable performance of the industry, flexibility is needed to allow the operators to work regardless of the events and economic crisis.

Creativity

Training is an important component in developing the characteristic of creativity. The regulatory authority as any good business organization should have a professional development plan for each of its staff members that include opportunities to expand their knowledge base about regulation and related economic themes and to learn from the experience

through benchmarking with other regulators in neighboring countries.

Courageous

The regulator must be willing to undertake the regulatory decisions and responsibilities professionally for the right reasons. Thus, it is the courage of the regulator to stand firm against

outside influences even though such a decision may entail a personal cost (lawful or otherwise). Regulators need to seek input from stakeholders and respect the opinions of all who intervene in regulatory matters, and decisions must be made based upon evidence that is presented in public forums for reasoned consideration.

RADIATION HAZARD IN FLIGHT



Radiations are waves of energy traveling in a medium at different frequencies and energies. Radiation can be categorized as Ionizing and Non- Ionizing. Non ionizing radiation is found in the lower end of the electromagnetic spectrum including radio waves, microwaves, infrared, visible waves and lower part of ultraviolet waves and they have low frequencies and energies, therefore not harmful.

Ionizing radiation, which includes x-rays, gamma rays, and ultraviolet waves, is characterized by high frequencies and energies strong enough to knock electrons out of their atoms[1]. Once interacting with the human body, ionizing radiation can alter the molecular architecture of human cells and tissues, resulting in life-threatening disorders.

Effect of radiation on altitude and latitude

Thankfully, the majority of radiation sources on earth's surface are non-ionizing, and even those that are ionizing only emit very little radiation that is not hazardous. However, crew and passengers who fly at cruise altitudes above 30,000 feet are also exposed to solar radiation and galactic or cosmic radiation, which are additional types of ionizing radiation. At 35,000 feet above the

earth's surface, the radiation level might be up to 10 times higher than it is at sea level.

The earth's magnetospheric shielding, which protects against solar radiation, is strongest in the equator and weakens with increasing Latitude before becoming feeble at the poles, hence the effects of radiation also worsen with increasing Latitude.

Due to these implications, the UN estimated in 2000 that working in an airline generated more radiation exposure than even working in a nuclear power plant.

RADIOACTIVE RISKS

When flying at high altitudes, not only passengers and crew members but also aircraft systems and other equipment are at risk from radiation exposure. Among the dangers are:

Regarding human health

Children and tissues containing large numbers of dividing cells, such as the blood, eyes, embryo, and reproductive organs, are particularly vulnerable to the harmful effects of ionizing radiation.

According to the International Agency for Research on Cancer (IARC) of the World Health Organization (WHO), ionizing radiation exposure leads to cancer in people, reproductive issues including miscarriages, genetic disorders, and eye defects like cataracts.

Because a parent was exposed to ionizing radiation before the kid was conceived, genetic abnormalities can be passed on to subsequent generations through DNA changes. Additionally, a child will have a higher lifelong chance of dying from cancer if a mother (crew member or passenger) was exposed to ionizing radiation when she was pregnant.

The chance of dying from cancer is estimated to be 200 per 1000 people in the USA alone, but among airline crew members, radiation exposure from 20 years of high altitude flying raises the risk to 225.

On the Avionics of aircraft

Cosmic radiation can induce soft errors in semiconductor devices which make up avionics systems of aircraft. They can reverse digital bits and create undesirable signals to operate the aircraft. For instance, the incident of Qantas Flight 72(QF72) suddenly pitching down the nose and rapidly descending twice is claimed to be caused by a glitch in the air data inertial reference system as a result of cosmic radiation.

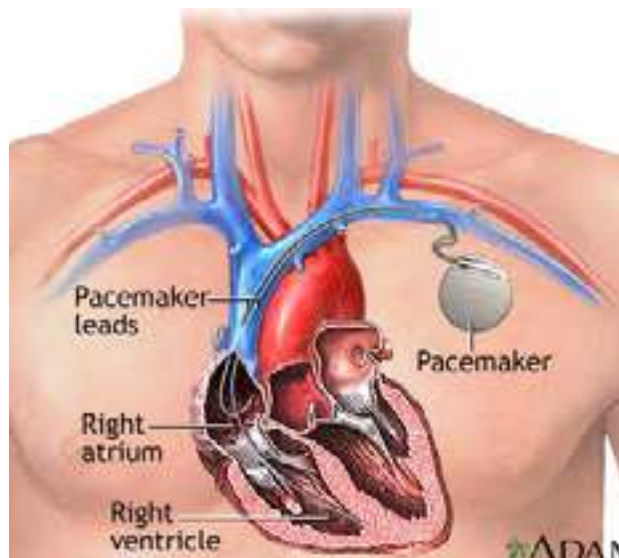


The A330 Flight deck Avionics

On medical devices

Active Implanted Medical Devices (AIMD) such as pacemakers, defibrillators and insulin pumps are susceptible to the effects of galactic (cosmic) radiation and they have been reported to fail during or after high altitude flight. Their failure

is associated with the alteration of digital bits in their microelectronics which control them, until the failure can be recognized and corrected by resetting the device. [2]



Effects on High Frequency Communication

High frequency (HF) radio communications can be impaired or even completely stopped by solar radiation. The ionization of the upper atmosphere (ionosphere), which absorbs shortwave radio communications, is increased when X-rays from solar flares enter the magnetosphere undeflected and reach the earth's atmosphere on the side facing the sun.

Moreover, the magnetosphere deflects the impinging solar particles and directs them toward the poles of the planet, increasing the rate of ionization in the upper atmosphere and causing ionospheric absorption hence disruption on HF radio communications with comparable effects. For instance, HF communications with airplanes encountered different interruptions and a complete breakdown of HF services that lasted for many hours during the Halloween storms in October and November of 2003.

MITIGATION ACTIONS

Effective dose is the phrase for the entire radiation exposure to a person or electronic device, and it is measured in **Sieverts (Sv)**[3]. It is based on the duration and intensity of the associated radiation field in terms of dose field. As a result, the mitigation strategies comprise cutting down on both radiation exposure and radiation exposure time as follows.

Consider radiation alerts in flight planning

When planning a flight route and altitude, the airline should plan and select that reduces radiation exposure following solar radiation alert(s) during moderate, strong and severe transient solar radiation events (20uSv/hr and above). A solar radiation alert is transmitted worldwide and is accompanied by a message with estimates of radiation levels at altitudes from 20,000ft to 80,000ft at specific latitudes.

Also, an individual can find out the effective dose of ionizing radiation received in each flight using a downloadable computer program called CARI-6 or CARI-6M which were developed at the FAA's Civil Aerospace Medical Institute.

Pregnancy-related care

It is recommended that pregnant passengers and flight crew members think about trip-trading or delaying a journey to lower their risk of miscarriage. According to a National Institute for Occupational Safety & Health (NIOSH) study, miscarriage risk increases when exposed to cosmic radiation of at least 0.36mSv during the first trimester.

The Personnel Licensing Regulation Part 138 mandates that pregnant pilots and cabin crew be evaluated and excluded from flying duties between the time of pregnancy's discovery and the end of the 12th week of gestation, as well as between the end of the 26th week of gestation and delivery, in order to protect them from the effects of radiation exposure and other effects[4].

RADIATION EXPOSURE LEVEL GUIDELINES

All aircraft that are designed to operate over 15,000m (49,000ft) must carry technology that can monitor and continually display the dose rate of all cosmic radiation being received as well as the cumulative dose for each flight, according to ICAO Annex 6, Provision 6.12.

According to ICAO Annex 6 regulation 4.2.11.5, the operator must keep track of all flights exceeding 15,000 meters (49,000 feet) in order to calculate the cumulative cosmic radiation dose each crew member received during a 12-month period. [5]

The International Commission on Radiological Protection (ICRP) is the primary body in protection against ionizing radiation and recommends an individual's effective dose limit

of 20 mSv per year, averaged over defined 5-year periods (100 mSv in 5 years), with the additional restriction that the effective dose should not exceed 50 mSv in any single year.

Additionally, the recommended dose for pregnant crew members is 1mSv from the time of pregnancy discovery until birth, with a monthly maximum of 0.5mSv. The annual limit for the general public (passengers) is 1mSv [6].

Thank you for reading!

References

- [1] International Civil Aviation Organization-ICAO, *Manual of Civil Aviation Medicine-Doc 8984*, page II-1-13.
- [2] Matthias M. Meier, Kyle Copeland, Klara E. J. Klöble, Daniel Matthiä, Mona C. Plettenberg, Kai Schennetten, Michael Wirtz, and Christine E. Hellweg, *Radiation in the Atmosphere—A Hazard to Aviation Safety?*, Page 14.
- [3] International Civil Aviation Organization-ICAO, *Manual of Civil Aviation Medicine-Doc 8984*, page II-1-14.
- [4] Tanzania Civil Aviation Authority-TCAA, *The Civil Aviation Personnel Licensing Regulations, 2017* part 138, page 230.
- [5] International Civil Aviation Academy-ICAO, *Annex 6 Operation of Aircraft, Part I - International Commercial Air Transport - Aeroplanes*, Ninth edition, July 2010, page 6-13.
- [6] International Civil Aviation Organization-ICAO, *Manual of Civil Aviation Medicine-Doc 8984*, page II-1-15.

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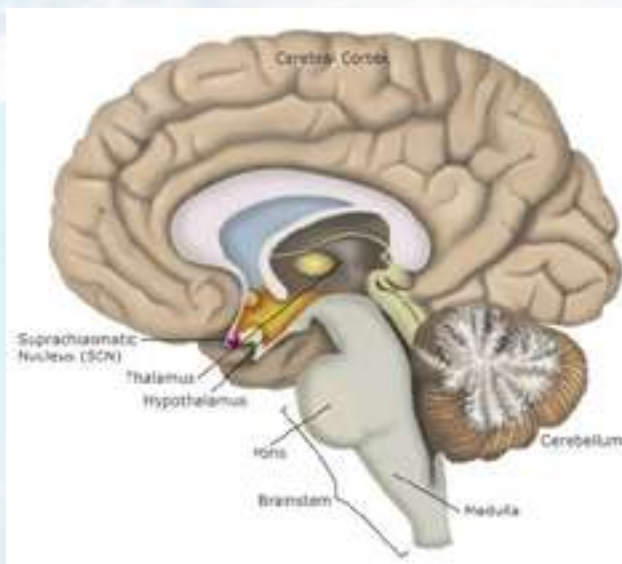
HOW AIRLINE CREWS PLAN THEIR SLEEP

Sleep is essential to human's well being and growth. It involves the body refraining from physical activities and interaction with the surrounding. The brain organizes vital mental functions when you sleep, as well as repairs bodily tissues and replicates DNA for growth, among other things.

For cognitive abilities including speech, memory, creativity, and flexibility to remain at normal levels, adequate sleep is essential. A person who doesn't get enough sleep may work less effectively, be less focused, make more mistakes, become irritable, and possibly become a weak link in any team performance. If a significant amount of sleep is lost, it will result in fatigue, depression, digestive problems, and an increased chance of incidents and accidents for a pilot.

How do we fall asleep?

The sleep/wake cycle is more correctly known as a Circadian rhythm and it is controlled by the cluster of neurons called Suprachiasmatic nucleus (SCN) located in the hypothalamus, a brain region below the cerebellum.



The SCN gives the information to the pineal gland to secrete melatonin, the hormone responsible for us falling asleep.

The SCN has the same path with photo-responsive ganglion cells (melanopsin) found in the retina of the eyes. So, when the daylight falls,



the melanopsin signals are picked up by the SCN and tells the pineal gland to secrete melatonin making a person fall asleep.[1]

The circadian rhythm, which serves as the body's daily clock, lasts for 24 hours in a constant environment but extends to 25 hours when the environment changes, as in zones. Although internal cues of body temperature and traffic noise also contribute, daylight is the principal cause of this cycle.

When the body temperature drops, the desire to sleep increases, and when it rises, it decreases. Therefore, it's crucial to consider the timing of the body temperature drop while making sleep plans rather than just the length of the sleep.

To manage and reduce fatigue in the aviation environment, aircrew, including pilots, must carefully organize their schedules and get enough sleep. As aircrew flight schedules vary, there are a number of acceptable ways to plan their sleep, including;

Sleep Planning

SLEEP CREDIT/DEBIT SYSTEM

The sleep/wake cycle is conceptualized as a credit and debit system, in which a person receives two hours of credit for each hour spent sleeping and one hour of debit for each hour spent awake. The

maximum credit allowed is 16, therefore you cannot expect to obtain more than 16 hours of awake time by sleeping for longer than 8 hours.

You will have a sleep credit of 12 hours to stay awake, for example, if you sleep for 6 hours. Staying awake during the remaining hours results in sleep debt or deprivation, which is linked to decreased performance and gets worse with altitude.

The aircrew plans to sleep for 8 hours before starting work so that they can work for 16 hours.

NAPPING INSTEAD OF MICROSLEEPS

A nap is a brief period of sleep that can last anywhere between 10 and 30 minutes, but a microsleep is an extremely brief period of sleep that can last anywhere between a fraction of a second and two to three seconds.

Pilots can take a nap periodically throughout a flight, which improves performance. Pilots are always instructed to wait five minutes after waking up from a nap to gather their thoughts, and they must all be awake for at least an hour before starting a descent.

Due to the fact that they don't help with fatigue and always take someone by surprise, microsleeps are risky and strongly discouraged for pilots.

Arranging sleep for a night flight shift

The pilots will occasionally have to fly when they would rather sleep and occasionally they will have to sleep when they would rather fly. Therefore, a circadian rhythm disruption and body temperature cycle may exacerbate sleep issues and result in a commercial aviation occupational hazard.

The aircrew will try to catch some rest in the afternoon before reporting for duty if they are cleared for night flight duty. However, it will be challenging to acquire any restful sleep because of a good sleep credit (if a typical night's sleep had been achieved the night before) and an elevated body temperature that interferes with sleep.

Aircrew will go to bed early the night before and rise early the next morning to ensure that by the afternoon, the body will approach sleep deficit and be ready for sleep. This will ensure that they have enough sleep credit when scheduled for night shift duty. As an alternative, they may stay up late the night before, sleep later, try to relax

in the afternoon, and yet get enough sleep for the night shift.

The shift rotation is organized by the airline management by assigning personnel to the early shift, late shift, night shift, and so on.



Arranging sleep when crossing time zones

Crossing time zones is a way of life for long haul aircrew and time zone shifts can lead to cumulative sleep deprivation as they constantly adjust and re-adjust their circadian rhythm to synchronize with the local time and environment at the destination. This disruption of an individual's normal body clock (circadian rhythm) by changing the time zones is known as Circadian dysrhythmia or jet lag. Jet lag has all unpleasant effects including inadequate sleep, a lack of concentration, irritability, bowel and stomach disorders and tiredness.[2]

With the aid of zeitgebers (time givers such as ambient light, body temperature, meal schedule, and street noise), the person's body clock naturally synchronizes to the new local time while changing time zones, although it's a lengthy process that typically takes approximately 90 minutes each day.

A shift of 6 hours in local time, for example on a 10 hours flight from Dar es salaam, Tanzania to Guangzhou, China will require about 4 days for the body to adjust to the Guangzhou local time. The pilots may only have 2 days before returning to Dar es Salaam and when they return their body clocks will be out of synchronization again.

Also, the effects of jet lag and its recovery depend on the direction of travel, whether traveling West or East. The mnemonic *West is best and East is least* as used in navigation is analogous to this case. It is easier to adjust to jet lag when traveling westward than traveling eastward and here is how;

TRAVELING EASTWARDS (Dar es Salaam to Guangzhou)

Guangzhou is 5 hours ahead of Dar es Salaam. This means the aircrew will experience a 19 hours day instead of 24 hours. Our free running body clock (Circadian rhythm) is 25 hours which means that the aircrew will suffer from 6 hours jet lag (25 hours - 19 hours).

TRAVELING WESTWARDS (Guangzhou to Dar es Salaam)

Dar es Salaam is 5 hours behind Guangzhou. This means that an aircrew will experience more than 5 hours in a day of 24 hours making upto 29 hours a day. Our free running body clock is 25 hours which makes the crew suffer from 4 hours jet lag (29 hours - 25 hours).



JET LAG RECOVERY TECHNIQUE

Each everyone finds their own strategy for overcoming jet lag (Circadian dysrhythmia), although the following are some techniques that are commonly accepted:

(A) Short stop over - less than 24 hours

If the stay is brief and the crew returns to base quickly, they continue their home-time routines. For instance, avoiding observing local time by eating breakfast at home and going to bed as at home.

(B) 24 hours stop over

This is the most challenging stopover because it does not allow for two good sleep periods but is also too long to be completed in one. With this, pilots relax briefly when they arrive so that before reporting for duty, their bodies will be better prepared to sleep for an extended amount of time.

(C) Stop over - more than 24 hours

For longer stops pilots plan to readjust to the new local time as soon as possible.

3 IN 1 RULE SLEEP PLANNING

It is advised that aircrew base their sleep calculations on the three-in-one rule in order to guarantee that they get the maximum amount of restorative sleep before reporting to work to fly. It shouldn't be mistaken with the navigational 3 to 1 IFR descent rule. Three straightforward guidelines make up the "3 in 1 rule"

Rule 1: 1 hour of sleep results in 2 hours of being awake.

Rule 2: The required sleep must be taken immediately prior to the wake up call for duty and ,

Rule 3: 3 in 1 rule, rule 1 gives units of 3 hours which we can use to calculate the required amount of sleep needed. [3]





For example

An Air Tanzania pilot flies a Dreamliner B787 direct from Dar es Salaam's Julius Nyerere International Airport -DAR (UTC+3) to Guangzhou Baiyun International Airport -CAN (UTC+8) for a 24 hours stopover. He lands and parks at the gate at 2115 hours local time, drives to the hotel and arrives at the hotel room at 2200 hours local time with no sleep credit. The following duty is scheduled to begin at 2000 hours.

Sleep plan

The pilot requires 8 hours of sleep (Rule 1) for duty day ahead and this must be taken immediately prior to the wake up call (Rule 2)

Last sleep will begin at (2000 hours - 0800) 1200 hours.

The pilot has (2200 hours - 1200 hours) 10 hours before he/she must go to sleep to ensure maximum amount of sleep credit.

Using 3 in 1 Rule, divide 10 hours by 3 and we find out 3 hours and 20 minutes of sleep is required.

So the sleep can be planned and taken as:

State	Local time	Sleep/ Wake Hours	Sleep Credit
Sleep	2200 - 0120	3:20 hours sleep	6:40 hours
Awake	0120 - 1200	10:40 hours awake	0
Sleep	1200 - 2000	8:00 hours sleep	16:00 hours

Environment for Resting and Sleeping

To ensure that their ability to coordinate and perform well in all flying scenarios is not jeopardized by fatigue and its associated repercussions, pilots must get at least 10 hours of rest which include 8 hours of sleep before deciding to take to the skies.

It is advised to set up the bedroom for sleeping by making the bed cozy, keeping the room free

of insects which can bite or sting, and making sure there is enough ventilation or an air conditioner to help the body temperature drop. It's also important to exclude the daylight from the room with darkness or blue light because melatonin is very sensitive to such light conditions.

Captain Chesley Sullenberger, better known as "Sully," the heroic pilot who successfully made an emergency landing in the Hudson River on January 15, 2009, saving all 155 people aboard (150 passengers and 5 crew), said that without adequate rest, his emergency landing in the Hudson River may not have been successful.



Capt. Sully's Sleep Testimony

He said during the interview with ABC news on 9th February 2011 that:

"I'm convinced that had we been tired, had we not gotten sufficient rest the night before, we could not have performed at the same level," "The fact that we got so much so right so quickly under that sudden stress is a testament, not only to our training, but the fact that we had a chance to get sufficient rest." [4]

References

[1] International Civil Aviation Organization (ICAO), *Manual for Oversight of Fatigue Management Approaches*- Doc 9966 , second edition 2016- page 2-18.

[2]. United States. U.S. Department of Transportation, Federal Aviation Administration, *Circadian Rhythm Disruption and Flying*, page 2 to 4.

[3] Oxford Aviation Academy: ATPL Ground Training, *Human Performance and Limitations*, fourth edition, page 212.

[4] BRIAN ROSS and DAN LIEBERMAN; *Capt. Sully Exclusive: Airline Industry Must Take Care of Tired Pilots*.

<https://abcnews.go.com/Blotter/chesley-sully-sullenberger-miracle-hudson-pilot-airline-industry/story?id=12877028>.

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HOW FLIGHT DISPATCHERS ENSURE FLIGHT SAFETY

A flight dispatcher, also known as an airline dispatcher or a flight operations officer (FOO), is a licensed airman who shares flight planning, releasing, and flight following responsibilities with a pilot in command (PIC).

In coordination with the flight crew, he or she works in the airline's operations center to make sure that the flight is properly prepared, takes off, is operated, and progresses safely while abiding by airspace and operational restrictions until it reaches its destination.

Duties of flight operations officers are outlined in the International Civil Aviation Organization -ICAO Annex 6 -Operation of Aircraft part 1 provision 4.6. The Civil Aviation - Personnel Licensing laws detail the eligibility, knowledge, training, skills, and license renewal criteria as well as the privileges for flight operations officers. They play a variety of responsibilities in airlines, including the ones listed below;

Flight Planning

Aircraft dispatchers choose and plan for the safest and most affordable route and flight level/altitude for the flight using advanced computerized software, such as Professional flight planner X(PFPX), simbrief.com, with their inputs.

This flight preparation takes into account aircraft limitations and status by consulting the Minimum Equipment List(MEL) and Configuration Deviation List(CDL). Analysis of the departure, destination and alternate airports' weather conditions and ensure that they are above the required minimums for approach category at a particular airport and aircraft capability.



In order to take into account jet-streams and avert flight from hazards such as aircraft icing, turbulence, and dangerous thunderstorm activities, flight dispatchers are capable of analyzing a wide variety of weather products, including Pilot Reports (PIREP), significant weather charts, SIGMETs, wind and temperature charts, constant pressure charts, satellite and radar pictures for the route selected

Identify the fuel load.

Depending on their capacity, current and predicted flying circumstances, traffic load (passengers and luggage), and distance traveled, aircraft tanks must carry a sufficient amount of gasoline. As required by the fuel policy requirements, the flight dispatcher must compute the taxi, trip (burn off), contingency, alternative, reserve, and additional fuels.

The extra fuel may be added to preserve the flight's operational integrity and avoid detours due to in-flight contingencies that could result

from changes in en-route traffic services, the amount of air traffic at the destination airport, ground de-icing or anti-icing, changes in flight level, and MEL/CDL additions.

Determine the mass and balance of the aircraft

Flight dispatchers also collect weight data from gate, check-in, and aircraft operations manuals to create a load and trim sheet that details the important masses and balancing information.

They produce take-off mass, landing mass, fuel load, traffic load in any compartment, and the position of the center of gravity through methodical calculations.

In order to safeguard the structural integrity of the aircraft and guarantee adequate flying stability, they make sure that these masses stay within their respective upper bounds and that the center of gravity stays within the predetermined range.

Turn around Coordination

In this, the flight dispatcher guarantees that the plane will take off on time. All ground activities, including aircraft cleaning, refueling, catering preparation, boarding, freight and luggage loading, and filling out and managing crew documents are managed, communicated, and coordinated by this individual. Additionally, he or she must recognize passengers who require special assistance and provide wheelchairs for them.

Perform Last Minute Changes (LMC)

The flight dispatcher modifies the finished load and trim sheet whenever a passenger or piece of luggage is dropped off or added right before takeoff so that the mass and balance data accurately reflects the aircraft's real loaded condition. These adjustments, sometimes known as Last-Minute Changes (LMC), are annoying.

To minimize unnecessary flight delays or being left behind, passengers are kindly asked to adhere to check-in and boarding times.

Filing flight plans

Before the aircraft takes off, flight operations officers are also responsible for completing up the navigation flight plan and the ATC flight plan.

One hour prior to the scheduled departure time, the ATC flight plan is completed and submitted

to the ATC. It gives precise information about the flight to the proper ATS units, allowing them to monitor the flight and support alerting services in the event of a search and rescue operation.

To help pilots with navigation and safe aircraft operation, the navigation flight plan is created in line with the operations manual.

Pre flight briefing

Prior to the flight, the flight dispatcher communicates with the flight crew/pilots through telephone, radio, or in-person pre-flight briefing to provide information crucial to the nature of the flight.

The briefing includes information on the flight's route and altitude, airports and en route weather, aircraft weights and loads, fuel capacity, NOTAMS (Notice to Airmen), inclement weather, and any special risks.

In the briefing, the flight dispatcher ascertains that the crew is competent, equipped, and in good enough condition to fly safely.

Printing documents for flights

It is a flight dispatcher's responsibility to compile and print paperwork for the flight crew. ATC flight plans, navigation flight plans, passenger manifest, load and trim sheet, evidence of security screening of luggage and cargo, security and customs paperwork, NOTAMS, and weather reports are among these papers.

Flight Release

After finishing flight planning and being confident that the flight will be safe, the flight dispatcher has joint authority with the PIC/captain to release/dispatch a flight.

In order to confirm that everything prepared for the flight is accurate, both parties will sign a flight release form.

The first officer and other members of the flight crew should review critical information from the flight papers and notify the dispatcher of any adjustments or modifications in order to reduce or eliminate errors.

Aircraft Following

A flight dispatcher keeps track of the flight after the plane takes off. Using sophisticated software and radar screens, he or she tracks the flight in real time while constantly appearing in front of the airplane. They keep an eye out for

impending weather patterns and monitor any other shifting conditions, modifying the flight plan as necessary.

Through phone, radio, and the Aircraft Communication and Reporting System (ACARS), they are in continual contact with the flight crew.

The flight dispatcher has operational control authority to cancel, delay, or divert a flight in the event of extreme (poor) weather in order to maintain safety at all times.

Coordinate during an emergency

A flight dispatcher may declare an emergency if they determine that the flight is in urgency or in distress. He or she offers the flight crew all assistance required to fix the issue and resume stable flight conditions. If the plane has vanished and cannot be found, the flight dispatcher informs air traffic services right away to start search and rescue operations.

Arrange crew accommodation

The flight dispatcher makes arrangements for the crew's transportation and hotel once the flight is completed. He or she must make sure they remain in good health, comfortable and safe for subsequent flights.

Also, when there are operational challenges and the flight is postponed or canceled, the flight dispatcher ought to disseminate the information and be reported to passengers, orchestrate accommodation and meals until flight is accessible.

FLIGHT OPERATIONS OFFICER TRAINING

According to laws, you must attend flight dispatch school and complete the necessary

coursework if you're interested in working as a flight dispatcher. Take an oral exam with an examiner after passing a written or multiple-choice test that is substantially the same as the ATP (Air Transport Pilot) exam. The Civil Aviation Authority will grant you the license necessary for employment after you pass the exams.

SCHOOLS FOR FLIGHT DISPATCHERS IN TANZANIA

One of the following colleges can help you fulfill your dream of becoming a flight dispatcher if you live in the United Republic of Tanzania.

Regional Aviation College, Swissport Tanzania Training Center, Tanzania Civil Aviation Training Center (CATC) and Soma Aviation Training Center.

The prosperity and efficiency of the airline industry depends in large part on the work of flight operations officers. Your flight will be on time and safe thanks to their problem-solving skills, ability to prioritize activities, capacity to handle a heavy workload, teamwork, and situational awareness.

I appreciate your reading!

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A BAT IN AVIATION:

8 FACTS YOU NEED TO KNOW ABOUT AFIS

Have you heard or seen a bat hang upside down in a cave or hollow tree? A bat is an interesting creature and the most misunderstood member of the animal kingdom. We recall a typical question from school; whether it be a mammal or a bird. In aviation we have Aerodrome Flight Information Services (AFIS), where does it belong? Is it an Air Traffic Management (ATM) unit, Aeronautical Information Management (AIM) unit or independent unit? Aerodrome Flight Information Services (AFIS) is the term used to describe the provision of information useful for the safe and efficient conduct of aerodrome traffic at those aerodromes designated for use by international general aviation (IGA) where the appropriate Air traffic services (ATS) authority determines that the provision of aerodrome control service is not justified, or is not justified on a 24-hour basis.

Tanzania's Songea Airport (HTSO) and Mchauru Airport (HTRU) provide Aerodrome Flight Information Services. Emden Airport (EDWE) in Germany, Bydgoszcz Airport (EPBY) in Poland, and Sir Bani Yas Island Airport (OMBY) are a few examples of airports that offer AFIS. Sir Bani Yas Island Airport was the first airport in the United Arab Emirates to be certified for Aerodrome Flight Information Services. the island's airport has been upgraded to become a fully certified airport equipped to receive domestic and short-haul international commercial flights.



Air Tanzania Q400 at Songea airport

What are its limitations?

AFIS is not intended to be used at aerodromes designated as regular or alternate aerodromes for international commercial air transport operations.



What is the difference between an aerodrome control service and AFIS?

Aerodrome control service is provided in controlled airspace where air traffic control services (ATC), flight information service (FIS) and advisory service are offered while AFIS is provided in an uncontrolled airspace where flight information service (FIS) and advisory service are provided.

What are the factors to be considered in the establishment of AFIS?

The following factors should be considered when determining the establishment of AFIS;

The type(s) of air traffic involved.

The density of air traffic.

The topographical and meteorological conditions, and

Such other factors as may be pertinent to safety and efficiency.

At what aerodromes may AFIS be accepted in terms of the amount of traffic, types of operation and meteorological conditions?

Where the type and density of traffic do not justify the provision of aerodrome control services at aerodromes utilized by international general aviation

What information should be provided?

An AFIS unit should, as necessary, transmit the following fundamental pieces of information to aircraft:

Meteorological information for aircraft about to take off or land, including SIGMET information.

Information enabling the pilot to select the most suitable runway for use,

Information on known aircraft, vehicles or personnel on or near the manoeuvring area or aircraft operating in the vicinity of the aerodrome, which may constitute a hazard to the aircraft concerned.

Information on aerodrome conditions which is essential to the safe operation of aircraft.

Information on changes in the operational status of non-visual navigation aids and visual aids essential for aerodrome traffic.

Radio bearings or direction-finding information, when equipment is available and when prescribed by the appropriate ATS authority.

Messages including clearances received from other ATS units for relay to aircraft.

What should be the qualifications of AFIS officers?

The provision of AFIS should be carried out by persons who are appropriately qualified, trained, and duly authorized by the relevant ATS authority.

The competent ATS authority should decide on AFIS personnel's age, education, experience, and skill requirements.

In Tanzania, AFIS training is provided as Aeronautical Mobile Services (AMS) course at Civil Aviation Training Centre (CATC) with the duration of five (5) weeks followed by on job training.

What sort of facilities are required to provide AFIS?

To the degree practical, the AFIS unit's equipment should be similar to that needed for the aerodrome control tower at a low-traffic airport.

What is the best Location for the AFIS Unit?

AFIS should be provided from a location that guarantees the best view of the aerodrome, the surrounding area, and, in particular, the maneuvering area, such as a control tower or a room with big, clear windows facing the airport and at least the approach ends of the runway.

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FIFA WORLD CUP AND CIVIL AVIATION OPERATIONS

FIFA WORLD CUP QATAR 2022 EXPERIENCE



By Saidi Mpwili

Senior Aviation Security Inspector

FIFA World Cup is an international association football competition contested by the senior men's national teams of the members of the Fédération Internationale de Football Association (FIFA), the football sport's global governing body. The tournament has been held every four years since its inaugural in 1930, except in 1942 and 1946 when it was not held because of the Second World War. The

reigning champions are Argentina, who won their third title at the 2022 tournament, in Qatar.

Civil Aviation Operations, except for military activity, the activity of flying aircraft for commercial purposes such as transportation of passengers or cargo for hire and the ferrying of aircraft as a commercial venture and General aviation.

FIFA World Cup hosting country is selected seven years prior to the tournament year, among other criteria the hosting country should provide proof of, and availability of adequate infrastructure, necessary resources, and financial and system readiness.

General Financial Cost – Last Four FIFA Hosting Countries		
Year	Country	Cost
2022	State of Qatar	US\$ 229 billion
2018	Russia	US\$ 16 billion
2014	Brazil	US\$ 19.7 billion
2010	Republic of South Africa	US\$ 7.2 billion

The state of Qatar is the recent country to host the FIFA World Cup for the period of 28 days from 20 November 2022 up to 18 December 2022. The country received a total of 1.8 million visitors including fans, event workforce, participating members associations, media groups, VVIPs, VIPs, CIPs, FIFA constituent groups, and celebrities.

Event's Description	
Football National Teams	32
Stadiums	8
Kick-off	21 November 2022
Final	18 December 2022
Group stage	48 matches in 12 days
Knockout stage	16 matches in 16 days



FIFA World Cup and the Civil Aviation Operations

Qatar Civil Aviation Operations has experienced the busiest time in its life history for serving 1.8 million passengers for FIFA World Cup events in addition to normal busy operations. Hamad International Airport (**DOH**) is the major and new airport in Qatar followed by Doha International Airport (**DIA**) (The old airport was recently refurbished to facilitate the processing of passengers and baggage during the FIFA World Cup Qatar 2022. These two airports were prepared to handle the business as usual, as well as the FIFA World Cup QATAR 2022 traffic.

Increased passenger and baggage

During the kick-off day, the airport received 88,000 arriving passengers on the peak day for both arriving and departing the airport handled 120,000 passengers. On peak day at the

end of the group stages, the airport handled 103,000 departing and arriving passengers.



This drastic increase in aircraft and passenger movement necessitated the readiness of aviation stakeholders both at HIA and DIA to ensure the availability of quality and timely services in air navigation, passenger movement in the terminal building, flight movement in the apron, fuel supplier, baggage handling systems, Airport Hotels, and the General Aviation Terminal.

The Passengers Overflow Area – POA

Establishment of POA aimed at controlling the congestion in the HIA/DIA Main Terminal check-in halls. POA were temporary restricted areas established in the landside area to provide waiting services for passengers arriving to HIA/DIA more than four (4) hours prior to their flight's departure time



The need for manpower increased, and recruitment was necessary, with the consideration of safety and security all newly short-term recruits were not exempted from mandatory training. QCAA directed all stakeholders to finalize training requirements

prior to kick-off day. This directive is intended to ensure that all airport employees are familiarized with airport procedures without compromising safety, security, and recently human rights considerations as per Qatar Civil Aviation Authority regulations.

Compliance with Airport Requirements as Approved by QCAA.

FIFA 2022 Slot Coordination Local Rules published on AIRAC AIP SUP19/2022 are applicable for the period of 30 October 2022 up to 25 December 2022.

The publication established Monitoring Committee to enforce compliance with ground operation rules and representation requirements during the event as incorporated and explained in the Slot monitoring Rules.

The publication also introduced among other things, Slot booking charge deposit per request and penalty triggers for slot violations during the event including flight cancellation on the day of the planned operation, slot changes request, "No show" OR "Go Show", delay on arrival and operating a different aircraft type than the one in the approved slot.

Airport Event Management Centre.

Airport Event Management Centre was established and was activated two weeks prior to the tournament inauguration match and deactivated two weeks after the final match. The center was responsible for making immediate and appropriate decisions related to airport operations to accommodate FIFA 2022 World Cup event.

Coordinating with Airport Operations Control Center and Airport Security Operation Center for operation planning.

To provide passenger movement information to the National Command and Tournament Transportation Control Centre to facilitate the coordination and planning of roads providing access to and from the airport to prevent congestion.

Public Transport connectivity.

All 8 stadiums used for FIFA are located at a maximum of 25km within the radius of HIA and DIA, despite having a wide variety of

transport options that seamlessly connect airports to the city, all convenient means of transport were very busy with the frequent diversion and changed to accommodate transportation to and from the airport.



National Command and Tournament Transportation Control Centre

The center was responsible for planning and coordinating landside transportation services to and from HIA & DIA. All stakeholders such as Doha metro, public buses, taxi service, limousine service, car rentals, and airport parking facilities for all vehicles were

effectively coordinated.

The Center was also responsible for describing the flows of the different airport users through the available facilities and managing the expected demand to avoid congestion within the airports' landside areas and road network.

Conclusion

Hosting the FIFA World Cup Event is tedious and time-consuming as it requires a high level of commitment from the policymakers and inclusiveness to government agencies and private sectors because the event affects all means of transport, security, environment, operational requirement, human rights and system health, culture and flexibility in decision making. Despite all these dynamics, the state of Qatar has managed and successfully achieved the best performance for hosting the event in its life history. This great achievement will reveal the state of football and be recognized for providing good services during the busiest time.



This could be a million dollar question as far as drones and its uses are concerned. Because drone uses are now paramount, as it stem from many thing as we shall see while reading this article which is self explanatory, range from what is drone it self, historical

backgrounds, technology used, its types, its uses, its challenges, how it fly and how to obtain a licence to fly it in the United Republic of Tanzania airspace. This article prepared with the help from various articles to give a reader a pleasant reading.

What Is a Drone?

Drones, sometimes referred to as unmanned aerial vehicles (UAVs), carry out tasks that range from the mundane to the ultra-dangerous. These robot-like aircrafts can be found rescuing avalanche victims as well as dropping off groceries at your doorstep — and almost everywhere in between.

A drone is an aircraft that doesn't require a pilot to be physically onboard. UAVs are often separated into two categories — civilian and military. While civilian UAVs are used for package deliveries and recreation, military drones are used for reconnaissance missions and carrying out offensive strikes on enemy targets.

Originally developed for the military and aerospace industries, drones have found their way into the mainstream because of the enhanced levels of safety and efficiency they bring. These robotic UAVs operate without a pilot on board and with different levels of autonomy.

A drone's autonomy level can range from remotely piloted (a human controls its movements) to advanced autonomy, which means that it relies on a system of sensors and LiDAR detectors to calculate its movement.

How Do Drones Work?

Many parts are involved behind the scenes to support the seamless operation of drones, so it's important to become familiar with the unmanned or remote technology that makes up a drone's system. From delivering commands to ensuring a manageable weight, pilots must take into account the various factors that make a drone suited for specific jobs. Among the many variables in play, some of the most critical components of a drone to consider are its ground control station (GCS), payload and data links.

What is Drone Technology?

Drones rely on a combination of hardware and software components to achieve successful takeoff, flight and landing. Drones are often equipped with rotors or fixed wings, sensors, navigation systems and gyroscopes (for stability), and are operated by ground control stations.

Unmanned Aerial Vehicles

Drones are commonly referred to as Unmanned Aerial Vehicles (UAV), whereas the entire system that allows a drone to function is a UAS (Unmanned Aerial System.) The UAV is the heart of the UAS and possesses fixed wings or either

a single or multi-rotary build for flight. Lighter-than-air UAVs, such as blimps and balloons, and small "Flapping Wing" UAVs also exist.

Ground Control Station (GCS)

Ground Control Stations are the central control unit that allows a UAV to fly and a UAS to operate. These stations can be as large as a desk with multiple views to as small as a handheld controller or even an app. The GCS can be user controlled or operated via satellites and is capable of controlling flight, controlling payload sensors, providing status readouts, mission planning and tethering the data link system.

Payloads

Drones, UAVs specifically, come in a variety of sizes and are capable of carrying payloads of equally variable sized payloads. From life-saving medication to packages and more, drones provide an efficient method of delivery but must be built to handle the job at hand. Many drones are capable of rapid flight across oceans while others may be restricted to just a few thousand feet.

Data Links

Data Links act as the transmission center that allow the drone to communicate with the ground operator while in flight. Typically utilizing radio frequency technology to communicate, the data link provides the operator with crucial data like remaining flight time, distance from the operator, distance from target, airspeed altitude and more.

Types of Drones

Drones come in a variety of types, each tailored to the unique demands of different industries. For instance, some people require lightweight drones to hold a camera for photography, while others need robust drones to transport heavy medical supplies. As a result, companies produce drones that come in four main types — single-rotor helicopter, multi-rotor, fixed-wing and fixed-wing hybrid VTOL.

Most Common Types of Drones

Single-Rotor Helicopter Drones

Single-rotor helicopters look exactly like tiny helicopters and can be gas or electric-powered. The single blade and ability to run on gas help its stability and fly for longer distances. These UAVs are usually used to transport heavier objects, including LiDAR systems, that can be

used to survey land, research storms and map erosion caused by global warming.

Multi-Rotor Drones

Multi-rotor drones are usually some of the smallest and lightest drones on the market. They have limited distance, speed and height, but make the perfect flying vehicle for enthusiasts and aerial photographers. These drones can usually spend 20-30 minutes in the air carrying a lightweight payload, such as a camera.

Fixed-Wing Drones

Fixed-wing drones look like normal airplanes, where the wings provide the lift instead of rotors- making them very efficient. These drones usually use fuel instead of electricity, allowing them to glide in the air for more than 16 hours.

Fixed-Wing Hybrid VTOL Drones

Fixed-wing hybrid vertical take-off and landing(VTOL), drones are a blend of fixed-wing drones and rotor-based drones, featuring rotors that are attached to the wings. Due to its hybrid approach, this technology offers users the endurance of a fixed-wing design and the vertical flying capabilities of a rotor-focused design.

How Do Drones Fly?

Drones depend on a number of parts working together in order to complete tasks under changing conditions. While gyroscopes and vertical take-off and landing (VTOL) capabilities make it easier to remotely control drones, GPS and LiDAR technology instill drones with a strong sense of direction. It takes all of these pieces to create a functioning drone that has the capacity to scan its surroundings while enduring a range of environments.

Vertical take-off and Landing(VTOL)Drones

Many drones, typically multi-rotor drones, are considered Vertical Take-off and Landing (VTOL) drones due to their ability to take off, fly, hover and land in a vertical position.

GNSS for Drones

Found in numerous types of drones, dual Global Navigation Satellite Systems (GNSS) like GPS and GLONASS drones are able to operate in both non-satellite and satellite modes, providing enhanced connectivity during operation.

GNSS allows Return to Home safety technology to function on a drone and can be activated

through the ground station's remote controller. In addition to being controllable through the controller, Return to Home can also be automatically activated once the battery is low or when loss of contact between the drone and the controller occurs.

Gyroscopes in Drones

Gyroscopes consist of a wheel that can spin in any direction on its axis and are used in drones to measure the rate of rotation. Because a gyroscope focuses on the tilt of a drone, it becomes essential for providing stability. This way, drones can maintain their direction and deliver a smooth flying experience.

WHAT ARE DRONES USED FOR?



Drones are used for more than military and recreational purposes. In fact, UAVs can be found improving the efficiency and safety of almost every industry imaginable, from wildlife conservation to medical supply delivery.

Military Drones

Probably the oldest, most well-known and controversial use of drones is in the military. The British and U.S. militaries started using very basic forms of drones in the early 1940s to spy on the Axis powers. Today's drones are much more advanced than the UAVs of yesteryear, equipped with thermal imaging, laser range finders and even tools to perform airstrikes. One of the most prominent military drones in use today is the MQ-9 Reaper. The aircraft measures 36 feet long, can fly 50,000 feet in the air undetected and is equipped with a combination of missiles and intelligence gathering tools.

Drones for Delivery

Delivery drones are typically autonomous UAVs used to transport food, packages or goods to

your front doorstep. These flying vehicles are known as “last mile” delivery drones because they are used to make deliveries from stores or warehouses close by. Retailers and grocery chains all over America and Europe are turning to drones as a more efficient delivery alternative, instead of relying on delivery drivers with inefficient trucks. These drones can carry 55 pounds of goods to your front door without you ever having to leave the house. Amazon, Walmart, Google, FedEx, UPS and many other big brands are all testing out different versions of delivery drones.

Drones for Emergency Rescue

Sometimes it's not safe enough to send humans into a rescue situation, due to the scope or severity of the disaster. That's where drones come in. In the case of a capsized boat or drowning individual, officials can throw an Autonomous Underwater Vehicle (AUV) into the water to assist in the rescue. If there's an avalanche, drones are deployed to look for those caught in the snow. Aircraft maker, Kaman, has even developed a pilotless helicopter, called the K-MAX, designed to carry more than 6,000 pounds of cargo. The K-MAX has already been used in China and Australia to assist in fighting fires.

Drones in Agriculture

Drones have proven to be beneficial to the agriculture industry as well, presenting farmers with several ways to optimize their farms to maximize efficiency and reduce physical strain. Carrying out field surveys, seeding over fields, tracking livestock and estimating crop yield are all made easier through the use of UAVs while saving agriculture professionals valuable time.

Drones for Wildlife and Historical Conservation

Drones are a cheaper and more efficient alternative to wildlife conservation. Tracking wildlife populations is nearly impossible with humans on the ground. Having an eye-in-the-sky allows wildlife conservationists to track great Migration as millions of wildebeests, Burchell's zebras, antelopes and other herd animals make the trek from the Serengeti in Tanzania to the Masai Mara in Kenya, to get a better idea of the health of their species and ecosystems. Conservation drones also make perfect tools in the fight against poaching efforts in Asia and Africa.

Drones in Medicine

How do you get medical supplies to people in hard-to-reach areas? What tool could you use to deliver organs for transplant patients? Drones are the answer to both of those questions. Right now, unmanned aerial vehicles are being used to deliver emergency medical supplies and cargo to off-the-grid communities in rural Alaska. Instead of relying on dog sleds, snowmobiles or ambulances that can't handle snow, Alaskans for instances are relying on drones to quickly receive life-saving medical supplies.

Drones are also being tapped to deliver donated organs to transplant patients. Just recently, history was made when a kidney was transported by a specially-made drone from one hospital in Maryland to the next in just under five minutes.

Drones for 3D Modeling

LiDAR drones come outfitted with LiDAR sensors, which survey landscapes and compile in-depth data that can be used to build 3D models. Drones equipped with LiDAR can present far more accurate data than drones without the technology. Besides making it easier to navigate various surfaces, LiDAR enables drones to spot targets in search and rescue missions, evaluate crops in agriculture and more.

Drones for Photography

Drones have been a boon for photographers who use UAVs to take expansive aerial photos. Ever wonder what it's like to get a bird's eye view of your favorite city, beach or building? There are drones made specifically for photography that provide a new way to photograph some of your favorite destinations from above.

Do You Need a License to Fly a Drone?

Yes, up until 2016, recreational and commercial businesses that utilized drone technology were required to possess a pilot's license regardless of their industry. In Tanzania for instances were required to obtain a permit from Tanzania Civil Aviation Authority(TCAA).

However, from 2018 new government regulations have come into play that require those piloting drones for commercial purposes to earn a Remote Pilot Certificate by taking an aeronautical knowledge course and later a TCAA test to be issued a licence. In Tanzania currently, the only college that is authorized to offer Drone course is Civil Aviation Training Centre(CATC).

To be eligible to take the exam, a minimum qualification one must be a form four leaver with at least 18 years old, be able to read, understand, speak and write English, and be in good enough physical and mental condition to fly a drone.

“The Civil Aviation (Remotely Piloted Aircraft Systems) Regulations, 2018 GN. No. 758 (contd.) 33 Offences and penalties 72.-(1) A pilot or any person in charge of the RPAS or the owner thereof who operates, or causes to be operated or commits any other person to operate a RPAS in such a manner as to endanger the safety of the air space, other aircraft, persons and property on the ground, commits an offence and shall be liable on conviction to a fine of not exceeding one million shillings or to imprisonment for a term not exceeding six months or both.” The list is not exhaustive, therefore I suggest you find and read The Civil Aviation (Remotely Piloted Aircraft Systems) Regulations, 2018 GN. No. 758 before you operate a drone.



What Are the Challenges of Drones?

Drones present several solutions to emerging and lingering challenges throughout industries. However, many have expressed concern over the potential negative impact that the growth of these devices presents. The below list is not exhaustive.

Drones and Privacy

Because drones rely on cameras to operate, which often allow operators to take photos and record videos, many have shown discontent at being captured without their consent. Several laws exist to restrict drones from intruding too far on others' privacy, but many users choose to ignore these laws.

Drone Airspace

Since drones occupy airspace, with many able to reach heights rivaling those of a jet, concerns have been raised about drones causing or exacerbating disasters and emergency situations. Drones can often be hard to track on air traffic radars, presenting new obstacles for plane and helicopter pilots to navigate through while in flight. In some cases, the presence of a drone may even preclude emergency aircraft from providing assistance, like in wildfire-stricken parts of the American southwest.

Drone Crashes

Whether in the air or on the ground, all human-operated aircraft possess an inherent risk of crashing — even when they are unmanned. Drones operate on limited battery power at a time, possess propellers that spin quickly to provide lift and have the potential to fall from great heights, posing a large risk to people, property and the environment as the number of drones in use scales upward.

Drones and Cybersecurity

As drones become more popular in everyday and military use, they become a bigger target for cyber attacks. Hackers can feed false GPS coordinates to take control of a drone, and they can even intercept data that is transmitted between a drone and its remote controller. People should take extra precautions to protect drones and the information they store, such as implementing anti-virus software, adopting firmware patches and using strong passwords.

Fixed-Wing Drones

Fixed-wing drones look like normal airplanes, where the wings provide the lift instead of rotors- making them very efficient. These drones usually use fuel instead of electricity, allowing them to glide in the air for more than 16 hours. Since these drones are usually much larger, and because of their design, they need to take off and land on runways just as airplanes do. Fixed-wing UAVs are used by the military to carry out strikes, by scientists to carry large amounts of equipment and even by nonprofits to deliver food and other goods to areas that are hard to reach.

Ally Changwila is Senior Public Relations Officer from Tanzania Civil Aviation Authority (TCAA), with help from various sources has managed to prepare this article.

TCAA STAFF GETTING TO KNOW MIKUMI NATIONAL PARK AND MAGOROTO FOREST AS ROYAL TOUR TANZANIA IS UNVEILED.

By James Mwala

Since the completion of the paved road connecting the protected area gate with Dar es Salaam, Mikumi national park has been slated to become a hotspot for tourism in Tanzania a mid of Tanzania Royal Tour documentary acted by Her Excellence President of United Republic of Tanzania Hon. Samia Suluhu Hassan. Located between the Uluguru Mountains and the Lumango range, Mikumi is the fourth largest national park in Tanzania and only a few hours drive from Dar es Salaam city.

The protected area has a wide variety of wildlife that can be easy spotted and also well acclimatized to game viewing. Its proximity to Dar es Salaam and the amount of wildlife that live within its borders makes Mikumi National Park a popular option for weekend visitors from the city, or for business visitors who don't have to spend a long time on an extended safari itinerary.

Considering that proximity, a group of staffs from Tanzania Civil Aviation Authority (TCAA) decided to visit Mikumi National Parks as part

of promoting local tourism and supporting efforts of Her Excellency Madam President of United Republic of Tanzania, Hon. Samia Suluhu Hassan.

A visit to Mikumi took place on 25th February where the team left Dar es salaam city at 3.30 pm and at around 10:00 pm, the team involved a touch of condescension – the well-off ‘blessing’ the less well off with their presence as they decided to sleep at Mikumi village in VETA hostels and got a traditional feeling of Mikumi kind like. On 26th February 2022, the group explored the whole Mikumi national park which is around 3,230 square kilometre (1,250 square mile) tract of wilderness from morning to the evening successfully spotted the big fives animals of which were; (cheetah, lion, elephant, buffalo, and rhinos). Moreover, they were able to witness the most rewarding hippo pools which provide close access to mud loving beasts, as well as the bird watching along the waterways in such particular pools.

Without forgetting seeing

a herd of zebras in their camouflage posing like ballerinas, heads aligned and stripes merging in flowing motion. The most flourishing species in Mikumi are ‘Grants and Thomson’s gazelle who are almost found in every part of the Mikumi National Park. Finally, the tour ended, but the most important key take was the end of one tourism tour by the staffs marked the start of another tour. And Mikumi is a great place to spend a couple of hours, whether you are petrol head or a history buff.

And at the end of August 2022, our staff decided to visit Magoroto Forest at Tanga. Magoroto with its tropical rain forest is the perfect spot for a getaway and outdoor camping. The estate is located on an altitude of 850m above sea level where temperatures are pleasant all year long. The estate offers stunning views from the Muheza Valley to the Indian ocean. TCAA staff enjoyed the lush rain forest with rare plants and bird species, explored the dense tropical forest with organic spices and had a picnic plus swim in the beautiful lake!

Don't forget to smile, Enjoy the nature.
Mikumi and Magoroto is Unforgettable.





TCAA Staff pose for a group photo at Magoroto

TCAA Staff pose for a group photo at Mikumi National Park Entrance



A buffalo lying down at Mikumi National Park

Core Values of TCAA

The Authority shall always embrace and institutionalise values that care about stakeholder's satisfaction and expectations at all times. All employees are expected to be committed, competent and able to uphold the following values as character of the identity to their organisation:



Integrity

We will be fair and honest in all cornerstones of TCAA services when dealing with our stakeholders.



Morals

We will adhere to ethical behavior when dealing with stakeholders and discharge our duties with neutrality and impartiality, without fear or favour;



Professionalism and Customer focused

We will maintain the highest degree of professionalism and ethical standards, building **value**-added relationships with customers and stakeholders to deliver quality services.



Accountability and Efficiency

We will adhere to good governance practices by delivering our services with high level of commitment.



Commitment

We will adhere to good governance practices by delivering our services with high level of commitment.



Transparency Teamwork

TCAA staff working as a team will engage the industry stakeholders and work collaboratively to achieve organisational goals while upholding the standards of ethics, honesty and transparency in all our actions.



CONSUMER COMPLAINTS UNIT

Tanzania Civil Aviation Authority Consumer Complaints Unit is a unit established under Section 59 (7) of consumers, investigate, attempt to resolve the complaint amicably and incase it can not be resolved. Present its findings to the Committee of the Board for hearing and Decision by the Board.

DECISION OF THE BOARD MAY CONTAIN REMEDIES TO CONSUMERS SUCH AS:

- Requiring a party to supply regulated goods or services for specified periods
- Requiring a party to supply regulated goods or services for specified terms and conditions
- Requiring a party to pay the cost of another party or of a person appearing at the hearing or producing documents
- Dismissing a complaint
- Imposing fines
- For specific performance
- Appointing trustees
- Setting up an escrow account and for such other reliefs may be deemed necessary.

***Complaints shall be addressed to:
Director General***

***Tanzania Civil Aviation Authority
Aviation House, Nyerere/ Kitunda Road Junction
P.O. Box 2819, Dar es Salaam, Tanzania
Tel: (255) 22 2198100, Fax: (255) 2844304 Email: tcaa@tcaa.go.tz***



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