



MEDIA STATEMENT

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Human error is the leading contributory factor in aviation accidents

Contrary to popular belief, human error is the leading contributory factor in aviation accidents. This was the message that resonated among the various panellists and presenters at the 3rd National Safety Seminar held in Kempton Park on 16 October and organised by the South African Civil Aviation Authority (SACAA).

Addressing delegates, the SACAA's Acting Executive of Accident and Incident Investigations, Rennie van Zyl, said that there are no new causes of accidents but a global repetition of causes. "What we have observed is that it is only the circumstances that may vary," Van Zyl told delegates.

According to veteran airline captain Scully Levin, many accidents are attributable to human factors. "Poor decision-making by pilots is often the cause. Moreover, poor judgement chains are not recognised and then broken timeously. In addition, single pilot operations depend on one lone pilot to manage risk, thus increasing the level of risk. Threat and error management is a concept in use within major airlines, but has yet to be taught in the general aviation environment."

In his presentation, the Regional Director of Safety Operations and Infrastructure of the International Air Transport Association (IATA), Gaoussou Konate, reiterated other speakers' assertion that human error was a leading factor in aircraft accidents. According to Konate, 50% of accidents were related to 'aircraft handling errors' followed by 'procedural errors' at 45% and then 'communication errors' at 18% and incapacitation or fatigue at less than 5%. To help operators combat these factors, IATA has initiated a dedicated programme called Implementation Programme for Safe Operations in Africa (IPSOA). Its objective is to enhance safety culture development in airlines through systematic analysis of operational data.

Konate further stated that most accidents occurred during the landing phase and that runway excursion and loss of control in flight were the main types of accidents. Konate pointed out that in such accidents top contributing factors involve deficiency in regulatory oversight as well as deficiencies in the airline's flight operations and training systems.

Levin supported Konate's assertions, stating that pilots are in most cases guilty of poor judgment. "Aircraft are occasionally flown in conditions outside of the capabilities of the aircraft or its pilot. In some instances, pilots do not consider that some airfields are inadequate in terms of length, width, slope and the presence of obstacles in the approach and overshoot areas."

Listing the 'top Top 10 human-related contributory factors' and comparing South Africa with the USA, General Desmond Barker, a veteran military pilot, pointed out similarities between the two countries, with the number one factor being 'loss of directional control on landing and take-off' (***** refer to table at the end of the release**). Barker also revealed that fuel mismanagement and hard landings are common errors made by South African pilots.

Another veteran captain, and Chairman of the International Federation of Airline Pilots Accident Analysis and Prevention Committee, Gavin McKellar, indicated that another contributing factor was fatigue, which resulted in pilots being 'unable to assess risk and take appropriate action'. He further told delegates that fatigue leads to reduced concentration and impaired decision-making.

Training standards need to improve

In addition to changes in pilots' attitudes, delegates were informed that 'the standard of instruction, in general, needs to be uplifted'. Levin stated that the General Aviation Strategic Initiative (GASI), a forum established last year by SACAA as 'think-tank' required to come up with practical solutions to the findings raised during accident investigations; advocated the introduction of uniform training for pilots.

"There have been instances of alleged misconduct at schools. The CAA will be investigating training schools; a process which may lead to some instructors being suspended. Most importantly, GASI advocates that all flying schools should apply and be approved as Aviation Training Organisations by the CAA," said Levin.

According to Levin, there is a tendency among student pilots to 'migrate to more lenient schools in order to ensure that they pass'. "As a result, GASI wants a mandatory procedure for student hand-over to be considered. When changing flying schools, students need to be issued with a transfer letter and training file."

Levin also indicated that another concern is that there is a tendency in the general aviation sector for individuals to believe that they may perform maintenance on non type certificated aircraft by themselves. "Perhaps it's time to introduce regulations which will state that it will be a mandatory requirement for non type certificated aircraft that are being used for training, to be serviced at an approved Aircraft Maintenance Organisation."

Interestingly, SA Express's Peter Mashaba, who spoke on the role of maintenance organisations in aviation safety, argued that "it is widely accepted that most accidents result from human errors. While it may be easy to dismiss these human errors as acts of carelessness or incompetence, recent research and accident investigation reports suggest that human error is merely the last link in the chain of events that leads to an accident. Increasingly, the aviation community is coming around to the notion that most accidents are 'organisational' in nature, where latent conditions combine with active failures to produce an accident."

Mashaba further explained that when an aircraft is designed, every part has a schedule which indicates when it must be serviced or replaced. “Because of the design philosophy of aircraft equipment, instruments and components, it is mandatory that preventative maintenance be performed by aircraft maintenance organisations for continued airworthiness. As much as an airline would like to keep the aircraft in the air, the aircraft needs maintenance at the intervals specified by the aircraft manufacturers.”

Mashaba told delegates that “if most accidents are indeed organisational, it follows that organisations are best placed to control those factors that are known to lead to accidents. In this regard an organisation’s management needs to implement a Safety Management System with the commitment of the Accountable Executive. Moreover, the CAA must participate randomly in heavy maintenance of aircraft wherever possible. After all, aircraft were designed to fly. However, for them to fly they need to be maintained in line with the manufacturer’s recommendations.”

It is still safer to fly in SA and Africa

Presenting aviation accident statistics recorded between 2005 and 2008, Konate said that while the global accident rate has had an unfortunate steady rise over the last three years; since 2005, there has been a significant reduction of accident rates for Africa and Indian Ocean (AFI). “Africa has changed from a very high rate of 9.2 in 2005 to 2.12 accidents per million departures in 2008. A major contributing factor to this safety improvement is attributable to the IATA Partnership for Safety programme initiated in 2005 to assist AFI-based carriers in their preparations for IATA’s Operational Safety Audit programme.”

Rennie van Zyl told delegates that data on Africa accident statistics often does not reflect the situation in South Africa, which has the biggest aviation industry on the continent. “The fact of the matter is that South African trends are much better compared to other developing and developed countries. This can be attributed to the fact that CAA oversight actions are of a high standard. As such the public can be assured of a safe flight.”

***** Top 10 human-related contributory factors by Desmond Barker.**

	South Africa	United States
1	Loss of directional control on landing and take-off	Loss of directional control on landing and take-off
2	Handling errors	Pilot failed to maintain airspeed
3	Fuel mismanagement	Pilot misjudged distance
4	Hard landings	Fuel exhaustion
5	Wheels-up	Inadequate preparation/planning
6	Wire-strikes	Unsuitable terrain
7	Pilot error (Negligence)	Inadequate pre-flight inspection/planning
8	Poor judgment	Inadequate visual lookout
9	Controlled flight into terrain	Pilot misjudged airspeed
10	Collisions with ground objects propeller/rotor strikes	Unknown

-ENDS-

About the SACAA:

The South African Civil Aviation Authority (SACAA) was established on 1 October 1998 following the enactment of the South African Civil Aviation Authority Act, No.40, in September of the same year. The SACAA promotes and maintains a safe, secure and sustainable civil aviation environment, by regulating and overseeing the functioning and development of the industry in an efficient, cost-effective, and customer-friendly manner according to international standards.

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