THE UNITED REPUBLIC OF TANZANIA
MINISTRY OF INFRASTRUCTURE DEVELOPMENT
ACCIDENT INVESTIGATION BRANCH

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DAR ES SALAAM

AIB Bulletin

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AIB Bulletin No.1 **Ref:** CAV/ACC/1/06
Category: 1.3
Aircraft Type & Reg: PA 34-200T **Reg.** 5H-ARP
Serial No. 75870196
No. & type of Engines: TCM TSIO & LTSIO-360-EB (1)
Year of Manufacture: 1975
Date and Time (UTC): 3 February 2006 at about 0707 hours.
Location: Ras Kutani airstrip, 30 km south of Dar es Salaam (06 56.23 **S** 39 29.59 **E**)
Type of Flight: Air charter
Persons on Board: **Crew** -1 **Passengers** - 2
Injuries: **Crew** -Nil **Passengers** – Nil
Nature of Damage: Aircraft substantially damaged.
Commander's Licence: ATPL
Commander's Age: 28 years
Commander's Experience: 2600 hours of which 520 were on type
Last 90 days 174 hours
Last 28 days 37 hours
Information Source: Telephone call from the operator

ALL TIMES UTC

History of the Flight

On 3 February 2006 at 0656 hours 5H-ARP took off from Mwalimu J.K. Nyerere International Airport, (formerly Dar es Salaam International Airport) for a charter flight to Ras Kutani. It was carrying one pilot and two passengers and was flying under

visual flight rules. The forward leg of the flight was uneventful. The pilot said that on reaching Ras Kutani at 0705 hours he checked the airstrip and the wind direction. He observed from the wind sock that there was a very strong cross wind. He chose to use runway 16 in order to take advantage of an uphill gradient at the beginning of the runway. The pilot said further that on touch down the aircraft

tended to float and he chose to apply power to initiate an overshoot. When full power was applied, the left engine did not respond immediately. He therefore chose to land on the remaining length of the runway. He also raised the flaps in order to avoid the possibility of floating.

The aircraft overran the end of the runway and struck a drainage trench of the road located just beyond the end of the runway causing the nose landing gear to collapse and the left main landing gear to separate. 5H-ARP came to rest in a shallow valley some 21 metres beyond the end of the runway.

There was no fire and all the occupants disembarked without any injuries. The aircraft sustained damage to the landing gears, the fuselage and the wings. The left main landing gear separated in the accident sequence and was dragged behind the wing, causing damage to the left flap.

EXAMINATION OF THE WRECKAGE

The aircraft overran the end of runway 16 and struck a drainage trench located just beyond the end of the runway. The nose landing gear collapsed and the left main landing gear separated, causing damage to the left flap.

The fuselage was punctured by the nose landing gear strut near the forward lower fitting point of the wind screen. This damage indicates heavy landing. Both propellers struck the ground also raising the possibility of both engines being shock loaded. Both

wings sustained damage on the rear spars. There were some wrinkles on the top front outboard section of the left wing.

Tyre marks attributable to 5H-ARP were first found about 250 metres from the beginning of the runway. They disappeared after a short distance and reappeared in the middle of the runway.

THE WEATHER

There is no weather station at Ras Kutani. However, it was a bright sunny day with the temperature estimated at about 28 degrees Celsius. The inspector of accidents arrived at Ras Kutani at 10 00 hours on the same day. The weather at the material time was reported to be similar to that obtaining at the time of the accident. Aircraft were still landing at Ras Kutani under significant cross wind.

RAS KUTANI AIRSTRIP

Ras Kutani airstrip, elevation 100 feet, has one runway 16/34 which is 800 metres long and 8 metres wide. The surface is compacted murrum and was in good condition for light aircraft.

The runway is built almost parallel to the coast line so that prevailing winds from the sea at Ras Kutani are consistently at right angles to the runway; i.e. cross winds.
Information about the weather conditions at Ras Kutani is not available to inbound pilots because the airstrip has no weather station.

Strong cross winds at Ras Kutani represent a serious challenge to pilots and this is further compounded by the limited width of the runway.

A liaison meeting between Directorates of Civil Aviation and Aerodromes held on 4 July 1997 to discuss the Ras Kutani and Amani Gomvi airstrips (The two airstrips are located in close proximity) deliberated on this issue. Part of Minute 4 of the meeting reads: “In 1995 it was found that the runway orientation at Ras Kutani was not in direction required and the safety of air traffic in the area could be jeopardized.”

Ras Kutani airstrip has a small apron on the northern side of the runway. Pilots have complained that the size of the apron makes parking at Ras Kutani to be difficult when there are a number of aircraft at the airstrip.

The airstrip was last inspected for the renewal of Aerodrome Certificate on 30 May 2005. In the letter accompanying the certificate, the operator of the airstrip was warned that it's specifications did not meet the standards published by the Tanzania Civil Aviation Authority. He was given three months to undertake the following improvements for compliance to the published specifications:

1. Increase the runway width to at least 18 metres;
2. The runway edge markers should be increased in size to 3 x 1 metres and spaced not more than 90 metres apart;
3. The runway and aerodrome name designator marks should be of permanent nature of specifications as published;
4. The runway strip should be expanded in size to be at least 30 metres from the centre-line and 30 metres beyond the threshold;
5. The runway strip should be free of trees and bushes and be flush with the runway surface.

ANALYSIS

The flight from Dar es Salaam to Ras Kutani was normal. However, it would appear that the accident occurred in the landing phase whilst the pilot was coping with a substantial cross wind that prevailed at the airstrip. The pilot reported to have floated on touch down and this was the reason for his attempted overshoot. The aircraft appears to have floated because the correct landing speed was not achieved at the time of touch down.

The pilot also reported that the left engine did not accelerate as expected and this was the reason why he aborted the overshoot. No engine problem was identified after the accident. In the absence of a flight recorder, it was not possible to ascertain the

reason why the engine did not immediately respond to the throttle input.

While the pilot had used flaps in the first landing attempt, he did not use them in the subsequent landing for fear of floating. The absence of flaps served to lengthen the distance required to stop the aircraft and hence the overrun.

SAFETY RECOMMENDATIONS

It is recommended that:

1. The recommendations for improvements necessary for compliance to the published TCAA specifications should be carried out immediately;

2. Consideration should given to the possibility of constructing another another runway that meets the wind direction requirements.

3. The operator should consider the possibility on installing an anemometer at Ras Kutani and some means of direct communication with the Dar es Salaam Tower.