

ANNUAL REPORT: AIR TRAFFIC STATISTICS - 2010

Released by
Civil Aviation Authority of Botswana
Department of Air Transport

August 2011

ANNUAL REPORT: AIR TRAFFIC STATISTICS - 2010

Enquiries should be made to:

Civil Aviation Authority of Botswana (CAAB)
Department of Air Transport
P.O BOX 250
Gaborone, Botswana
Telephone: +267 3688200
Fax: +267 3953517

August 2011

COPYRIGHT RESERVED
Extracts may be published if
source is duly acknowledged

TABLE OF CONTENTS

TABLE OF CONTENTS.....	3
Section 1: Introduction	4
1.1 Introduction	4
1.2 Aerodromes index.....	5
Section 2: Air Traffic Trends 1999-2010.....	6
2.1 Aircraft movement trends 1999-2010.....	6
2.2 Passenger movement trends 1999-2010.....	6
2.3 Aircraft movement by airport: 1999-2010	7
2.4 Passenger movement by airport: 1999-2010	8
Section 3: Air Transport activity by airport – 2010	9
Section 4: Seasonal Variation in aircraft & passenger movement- 2010.....	10
4.1 Aircraft movement trend by type of movement	10
4.2 Aircraft movement trend by airport.....	10
4.3 Passenger movement trend by type of movement	11
4.4 Passenger movement trend by airport	11
Section 5: Aircraft & Passenger Movement by type of Operation -2010	13
5.1 Aircraft movement by type of operation.....	13
5.2 Aircraft movement by type of movement, operation and by airport	13
5.3 Passenger movement by type of operation	14
5.4 Passenger movement by type of movement, operation and by airport.....	15
Section 6: Cargo and mail volume	16
Section 7: Over-flights movement statistics - 2010.....	17
7.1 Over flights aircraft movement statistics by month.....	17
7.2 Over flights aircraft movement statistics by flight rule.....	17
7.3 Over flights aircraft movement statistics by weight and type of operation – 2010	18

Section 1: Introduction

1.1 Introduction

This report presents Air Traffic Statistics for the year 2010. The statistics reported covers aircraft and passenger movements, cargo and over flights movement statistics.

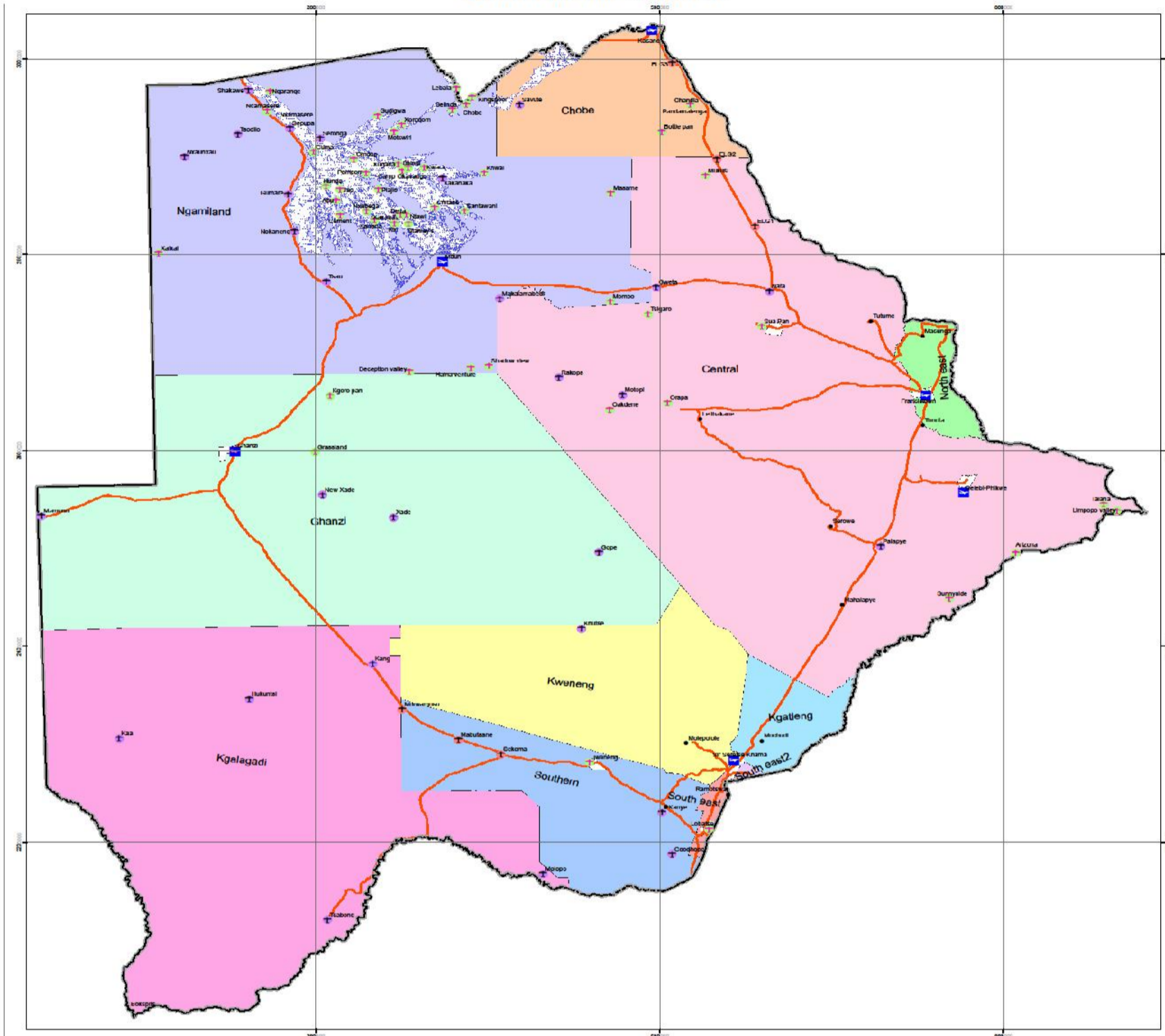
The report covers six main airports operated by Civil Aviation Authority of Botswana (CAAB), namely Sir Seretse Khama International Airport (SSKIA), which is located in the capital city Gaborone, Maun, Ghanzi, Francistown, Kasane and Selebi Phikwe. Maun and Kasane airports in the northern part of the country play a vital role in providing air transport service for tourism in the Okavango Delta and Chobe area. SSKIA is designed to handle B -747 or equivalent class aircraft and the terminal building is designed to handle a Typical Peak Hour Passenger of 976, both domestic and international. There are 19 government airfields around the country, however the statistics presented in this report does not cover such airfields.

Five international air carriers are operating scheduled passenger services to Botswana, and these are: Air Botswana, Kenya Airways, South African Airways and South African Express Airways operating at SSKIA, and Air Namibia operating at Maun airport. Domestic air transport activity is focused in Gaborone, Francistown and Maun while international travel is mainly between Gaborone and Johannesburg. Other international connections are Maun – Johannesburg, Kasane – Johannesburg, Francistown – Johannesburg, Gaborone –Harare, Gaborone – Nairobi and Maun – Windhoek.

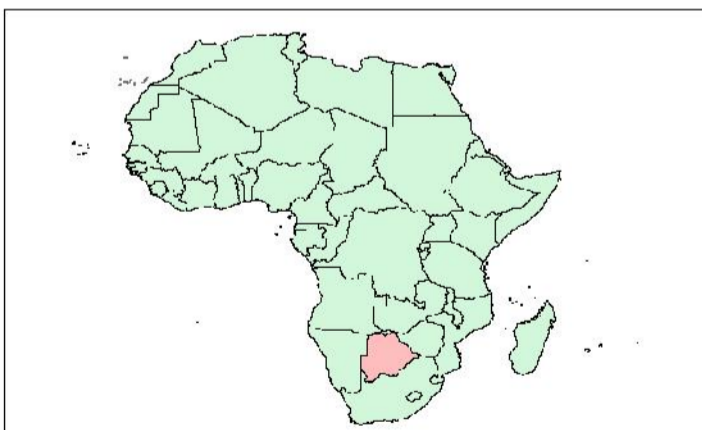
Aircraft and passenger movement data is received from CAAB's offices located at the airports. Data is recorded daily on the aircraft movement log sheets. The data is then summarized to monthly statistics and is submitted to CAAB Head Office for collation. International and Domestic air traffic statistics are classified according to; scheduled, non-scheduled and private operations. Air cargo and mail statistics is collected from Air Botswana at SSKIA where it is mostly concentrated.

1.2 Aerodromes index

AERODROMES INDEX



Scale : 1 : 2,000,000



Aerodrome		City Name		Township Name	
	Major international		Francistown		Ghanzi
	Minor international		Gaborone		Jwaneng
	Minor		Lobatse		Kasene
	Emergency landing ground		Selebi Phikwe		Suwa
	Private		Okavango Swamps		

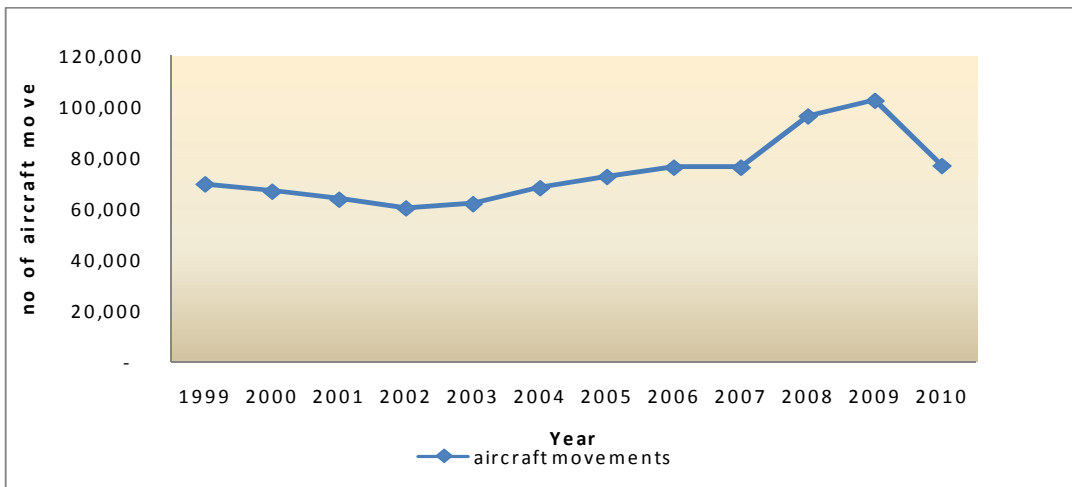
Data used:-
Geographic coordinates and details for 8 aerodromes, both private and government in a hard copy extracted from the Aeronautical Information Publication (AIP) Botswana. Topographic data in the form of shape file from the Department of Surveys and Map in a Clark_1980_Transverse_Mercator. Another topographic data as shape files: PCS_botswana_MNIGH022_Collins coast

Section 2: Air Traffic Trends 1999-2010

2.1 Aircraft movement trends 1999-2010

Figure 1 below indicates aircraft movement statistics trend from 1999 -2010 and this covers commercial scheduled, commercial non-scheduled and private movements. The total number of aircraft movements (all airports) has been declining from 1999 to 2002. From 2003, the movements grew gradually until 2009. The graph also indicates a sharp drop from 2009-2010. A sharp decline in 2009-2010 is mainly accounted for by a decline in non-scheduled commercial movements that resulted from most likely the economic recession which affect adversely the tourism sector of the country.

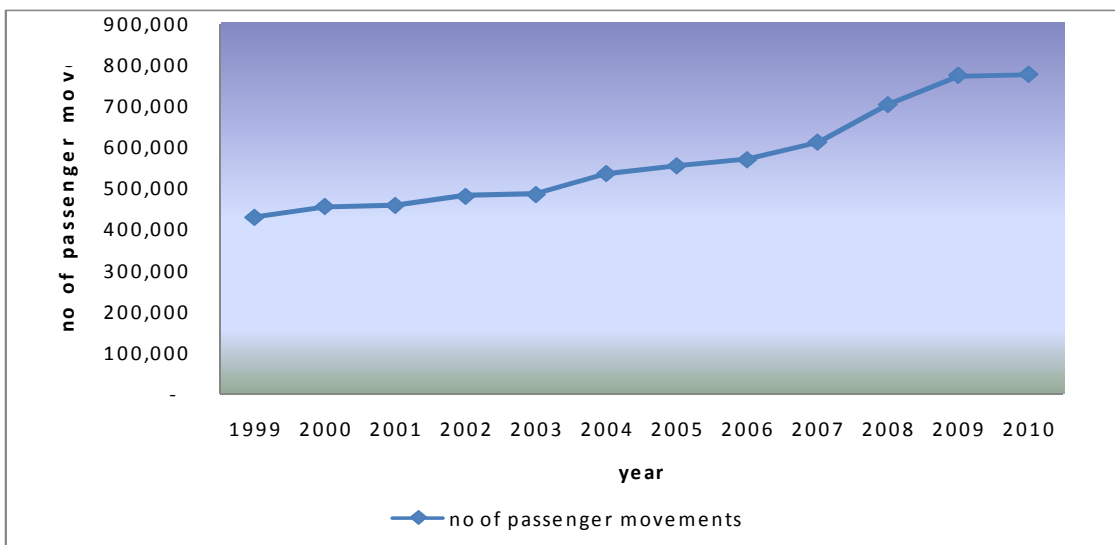
Figure 1: Aircraft Movement trends: 1999-2010



2.2 Passenger movement trends 1999-2010

Passenger movement trend shows that the number of passengers using air transport has been increasing gradually since 1999 from around 400,000 in 1999 to about 700,000 in 2010.

Figure 2: Passenger Movement trends: 1999-2010



2.3 Aircraft movement by airport: 1999-2010

Table 1a shows the total aircraft movement by airport from 1999- 2000 whereas Table 1b reveals aircraft movement annual growth rate for each airport. From 1999-2002 aircraft movements generally declined in all airports and grew steadily from 2003 to 2009. The total aircraft movements declined by 25.7% in 2010 as a result of a significant drop in Maun airport of 40.6%. The decline in Maun is mainly attributed to a decline in non-scheduled commercial movements that resulted from most likely the economic recession which affect adversely the tourism sector of the country.

Table 1a: Aircraft movement by airport: 1999 – 2010

Year	Airport						Total
	SSKIA	Maun	Kasane	F/Town	S/Phikwe	Ghanzi	
1999	18,193	36,615	9,072	3,778	1,455	721	69,834
2000	17,471	36,205	7,964	3,715	1,066	530	66,951
2001	16,187	34,364	7,805	4,018	935	530	63,839
2002	17,041	29,887	7,987	3,042	734	421	59,112
2003	16,591	30,854	9,502	3,986	732	461	62,126
2004	17,593	35,176	10,568	3,824	727	461	68,349
2005	19,632	32,907	8,581	3,973	689	436	66,218
2006	18,737	39,430	12,920	4,520	459	324	76,390
2007	15,848	41,781	13,068	4,838	496	376	76,407
2008	15,238	59,982	12,951	4,417	517	385	93,490
2009	14,645	69,485	10,335	3,363	451	296	98,586
2010	15,719	41,245	12,279	3,296	413	309	73,261

N:B statistics exclude military movements

Table 1b Annual growth rates by airport - Aircraft movements: 2000 – 2010

Year	Airport						Total
	SSKIA	Maun	Kasane	F/Town	S/Phikwe	Ghanzi	
2000	-4.0	-1.1	-12.2	-1.7	-26.7	-26.5	-4.1
2001	-7.3	-5.1	-2.0	8.2	-12.3	0.0	-4.6
2002	5.3	-13.0	2.3	-24.3	-21.5	-20.6	-7.4
2003	-2.6	3.2	19.0	31.0	-0.3	9.5	5.1
2004	6.0	14.0	11.2	-4.1	-0.7	0.0	10.0
2005	11.6	-6.5	-18.8	3.9	-5.2	-5.4	-3.1
2006	-4.6	19.8	50.6	13.8	-33.4	-25.7	15.4
2007	-15.4	6.0	1.1	7.0	8.1	16.0	0.0
2008	-3.8	43.6	-0.9	-8.7	4.2	2.4	22.4
2009	-3.9	15.8	-20.2	-23.9	-12.8	-23.1	5.5
2010	7.3	-40.6	18.8	-2.0	-8.4	4.4	-25.7

2.4 Passenger movement by airport: 1999-2010

Table 2a shows the total passenger movement by airport from 1999- 2000 and Table 2b shows the passenger movement annual growth rate by airport. Sir Seretse Khama International Airport (SSKIA) is generally growing annually as shown in Table 2b. A decline of 2.1% is observed only in 2006. The smallest airports, Selibe -Phikwe and Ghanzi experienced a serious annual decline in passenger movement during the reporting period. The decline in traffic for Selibe Phikwe is attributed to production decline at a nearby copper mine and the removal of air services by Air Botswana. In case of Ghanzi the decline is probably due to the completion of the trans-Kalahari highway as well as the removal of air services by Air Botswana.

Table 2a Passenger movement by airport: 1999 – 2010

Airport							
Year	SSKIA	Maun	Kasane	F/Town	S/Phikwe	Ghanzi	Total
1999	227,181	139,377	30,674	23,639	3,954	2,531	427,356
2000	237,493	154,485	30,879	25,219	3,605	1,809	453,490
2001	238,935	151,817	34,300	26,277	3,474	1,473	456,276
2002	265,658	143,077	38,531	26,907	2,554	1,413	478,140
2003	270,020	138,289	40,837	29,796	2,342	1,456	482,740
2004	290,464	156,043	48,206	35,047	2,406	1,518	533,684
2005	295,891	168,834	52,226	32,574	1,826	999	552,350
2006	289,550	183,580	57,985	33,243	1,584	1,116	567,058
2007	314,669	191,928	57,320	42,732	1,654	1,382	609,685
2008	337,969	238,542	62,162	49,453	1,546	725	690,397
2009	374,214	270,750	55,757	45,277	1,389	676	748,063
2010	425,845	207,671	67,633	47,332	1,248	533	750,262

N:B statistics exclude military movements

Table 2b Annual growth rates by airport- Passenger movements: 2000 – 2010

Airport							
Year	SSKIA	Maun	Kasane	F/Town	S/Phikwe	Ghanzi	Total
2000	4.5	10.8	0.7	6.7	-8.8	-28.5	6.1
2001	0.6	-1.7	11.1	4.2	-3.6	-18.6	0.6
2002	11.2	-5.8	12.3	2.4	-26.5	-4.1	4.8
2003	1.6	-3.3	6.0	10.7	-8.3	3.0	1.0
2004	7.6	12.8	18.0	17.6	2.7	4.3	10.6
2005	1.9	8.2	8.3	-7.1	-24.1	-34.2	3.5
2006	-2.1	8.7	11.0	2.1	-13.3	11.7	2.7
2007	8.7	4.5	-1.1	28.5	4.4	23.8	7.5
2008	7.4	24.3	8.4	15.7	-6.5	-47.5	13.2
2009	10.7	13.5	-10.3	-8.4	-10.2	-6.8	8.4
2010	13.8	-23.3	21.3	4.5	-10.2	-21.2	0.3

Section 3: Air Transport activity by airport – 2010

Table 3 shows that commercial domestic movements accounted for 72% while commercial international aircraft movements stands at 22.5% of the total movements in 2010. Non - commercial aircraft movements were only 5.4% of the total movements.

Maun recorded the largest number of commercial domestic aircraft movements (37,860) followed by Kasane airport. This is attributed to a higher number of non-scheduled aircraft movements in Maun due to tourist activities in the region. Sir Seretse Khama International Airport dominates the commercial international aircraft movements by a total of 9,009 movements. Selibe Phikwe and Ghanzi had the least total number aircraft movements compared to other airports. Overall Maun had the highest number of aircraft movements.

The total commercial domestic passenger movements accounted for 46.5% compared to commercial international movements (52.4%) and non commercial movements (1.1%).

Maun handled the largest proportion of the commercial domestic passenger movements with a total of 163,186 followed by SSKIA. SSKIA dominates the commercial international passenger movements by a total of 323,707 movements. The second highest is Maun airport with a total of 44,287 passengers in 2010. The pattern of passenger movement mirrors that of aircraft movements, showing SSKIA dominating the international movements and Maun dominating the domestic movements.

Table 3: Air traffic statistics by type of movement & airport -2010

Airport	Aircraft movement						Passenger movement					
	Commercial			Non comm.	Grand Total	% of total	Commercial			Non comm.	Grand Total	% of total
	Dome.	Int'l.	Total				Dome.	Int'l.	Total			
SSKIA	4,397	9,009	13,406	2,313	15,719	22.0	97,239	323,707	420,946	4,899	425,845	55.8
Maun	37,860	3,205	41,065	180	41,245	54.5	163,186	44,287	207,473	198	207,671	27.3
Kasane	8,521	3,464	11,985	294	12,279	17.0	50,437	16,910	67,347	286	67,633	9.3
F/Town	1,745	767	2,512	784	3,296	5.3	37,229	8,138	45,367	1,965	47,332	7.1
S/Phikwe	43	43	86	327	413	0.7	156	145	301	947	1,248	0.4
Ghanzi	207	13	220	89	309	0.4	362	56	418	115	533	0.1
Total	52,773	16,501	69,274	3,987	73,261	100.0	348,609	393,243	741,852	8,410	750,262	100.0
% of total	72.0	22.5		5.4	100		46.5	52.4		1.1	100	

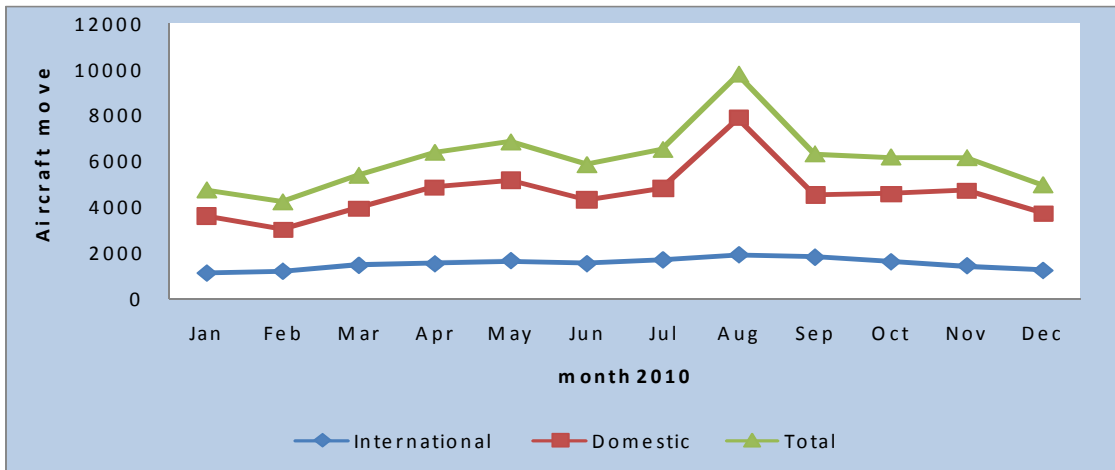
non-commercial covers private movements only

Section 4: Seasonal Variation in aircraft & passenger movement- 2010

4.1 Aircraft movement trend by type of movement

Figure 3 shows the trend in aircraft movement from January 2010 to December 2010. There has been an increase in the number of aircraft movements from March – May 2010. This was attributed to a significant growth for domestic movements. Both International and domestic movements peaked in August and then dropped until December 2010.

Figure 3: Aircraft movement trend



4.2 Aircraft movement trend by airport

Figure 4a and 4b below indicates the trend in aircraft movement by airport during the reporting period. Maun, Kasane and SSKIA reached a peak in August 2010. Maun then declined sharply in September. The lowest movements were in February 2010 in most of the airports and this is also reflected by the overall total in Figure 1. In Selibe phikwe and Ghanzi the movements peaked in November and February respectively.

Figure 4a: Aircraft movement trend by airport

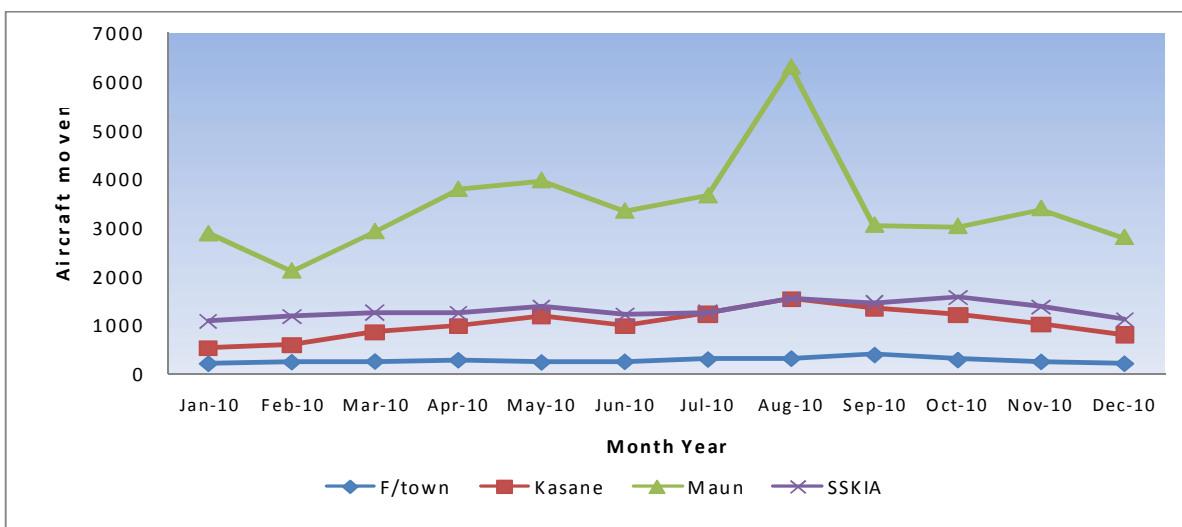
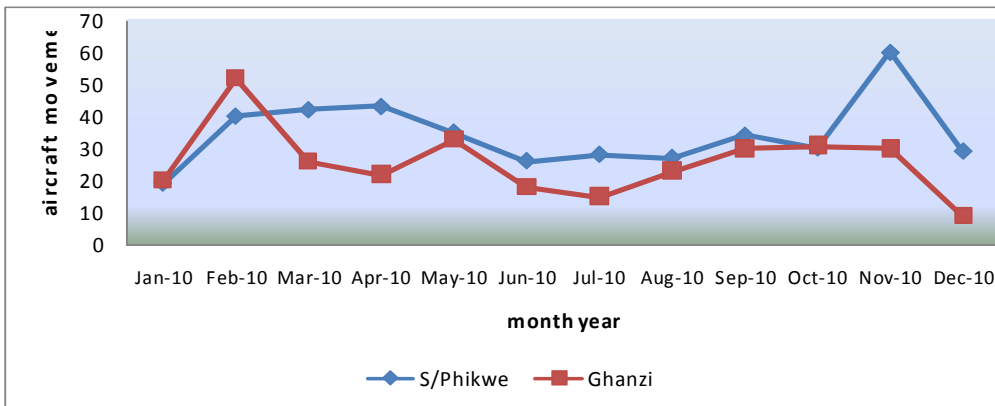


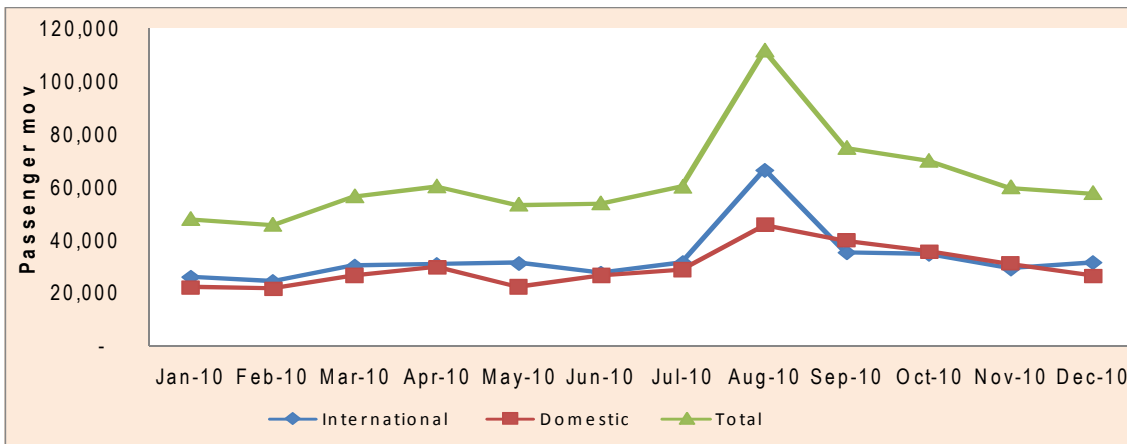
Figure 4b: Aircraft movement trend by airport



4.3 Passenger movement trend by type of movement

Passenger movement pattern is slightly similar to that of aircraft movements. Figure 5 shows that both domestic and international passenger movements reached a peak in August and declined gradually until December 2010. The graph further reveals that the lowest number of passenger movements were in February for international movements and May for domestic movements.

Figure 5: Passenger movement trend -2010



4.4 Passenger movement trend by airport

Figure 5a shows that SSKIA had the highest number of passenger movements followed by Maun airport. Passenger movements increased in SSKIA and Maun airports between February and May. The movements peaked in August 2010 and generally dropped until December. Selibe Phikwe and Ghanzi show a different pattern. The movements in Selibe Phikwe and Ghanzi peaked in October, November respectively and dropped sharply in December.

Figure 5a: Passenger movement trend by airport

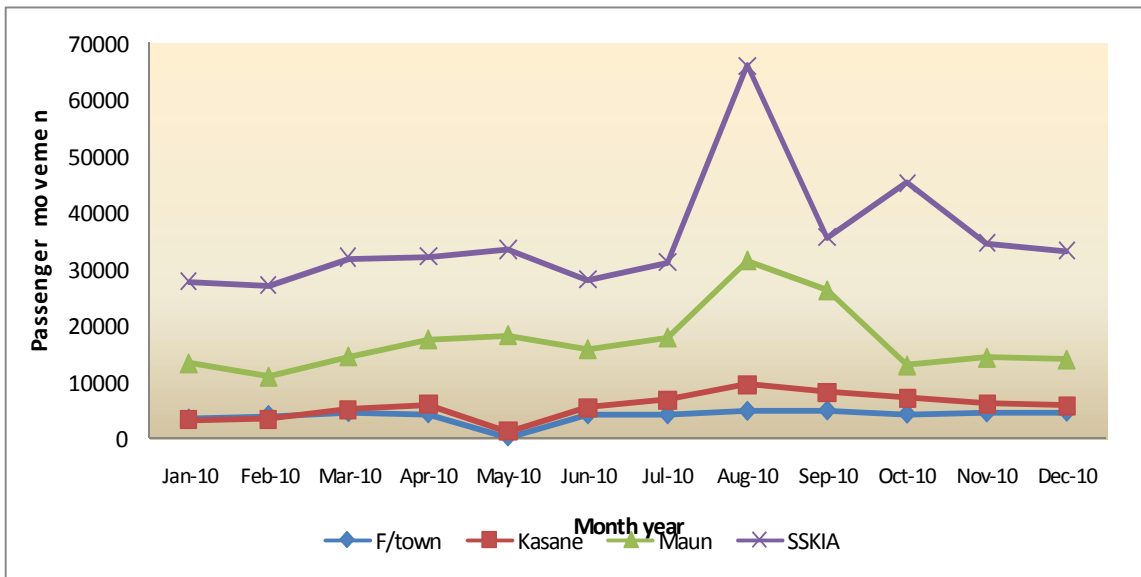
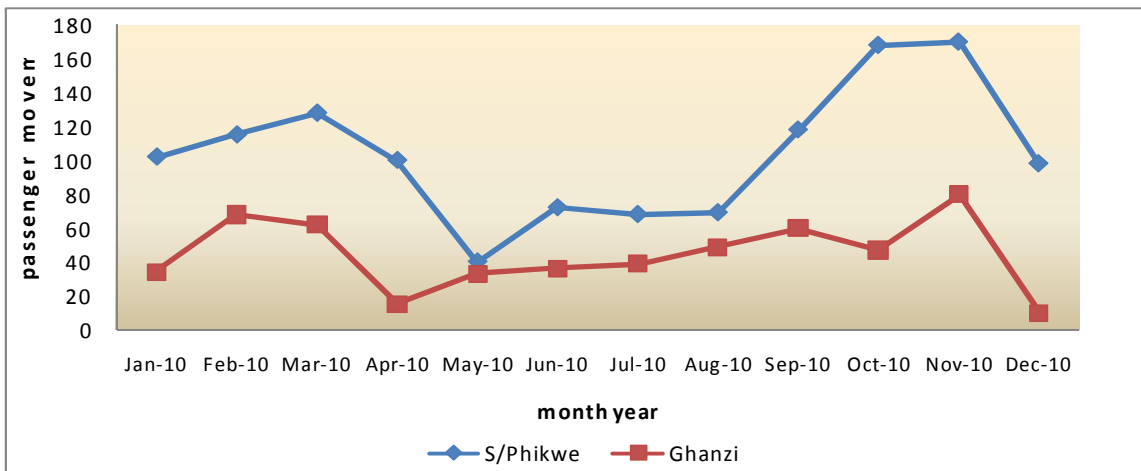


Figure 5b: Passenger movement trend by airport

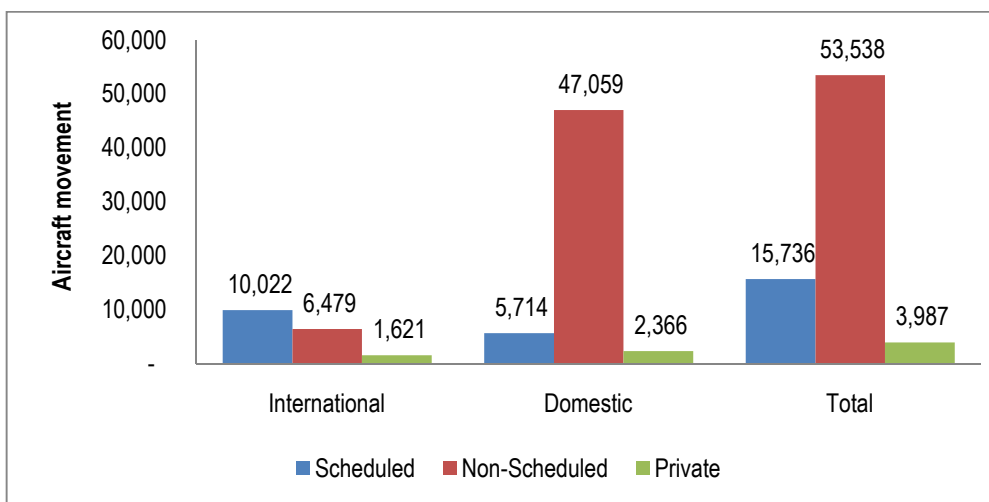


Section 5: Aircraft & Passenger Movement by type of Operation -2010

5.1 Aircraft movement by type of operation

Figure 6 indicates aircraft movement by type of operation during the year 2010. Scheduled international aircraft movements are higher (10,022) compared to non-scheduled and private service operations, accounting for 55% of the total international movements. For domestic movements, non-scheduled aircraft movements are dominant (47,059) compared to scheduled and private operations. This is attributed to a high number of non-scheduled flights in Maun area. For both international and domestic movements, private flight operations are the least. Overall non-scheduled flights movements are higher compared to scheduled and private operations.

Figure 6: Aircraft movement by type of Operation



5.2 Aircraft movement by type of movement, operation and by airport

Table 3 compares aircraft movement by type of movement and operation between the six main airports. International scheduled aircraft movements are higher at SSKIA (7,947) followed by Maun airport, whereas international non-scheduled movements are dominated by Kasane airport (3,082) followed by Maun airport. SSKIA had the highest number of private passenger movement followed by F/Town airport.

SSKIA leads domestic scheduled aircraft movements by a total of 2,572 movements, whereas domestic non-scheduled movements are dominated by Maun airport followed by Kasane. SSKIA also leads the private domestic movements followed by Francistown airport. Overall SSKIA dominates scheduled and private passenger movements whereas Maun dominates non-scheduled aircraft movements.

Table 4: Aircraft movement by type of movement, operation and by airport

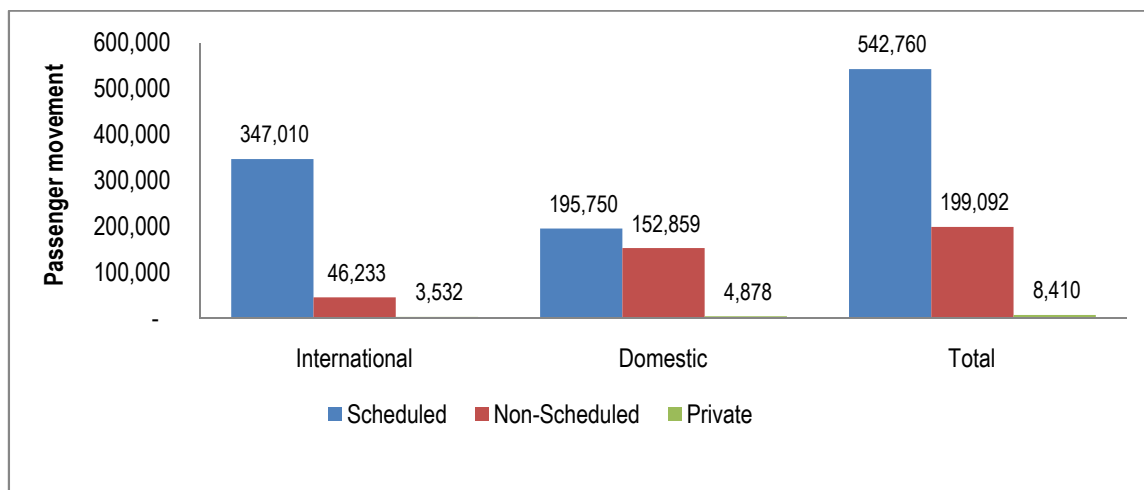
		SSKIA	Maun	Kasane	F/town	S/phikwe	Ghanzi	Total
INTERNATIONAL	Scheduled	7,947	1,469	382	224	-	-	10,022
	Non Scheduled	1,062	1,736	3,082	543	43	13	6,479
	Private	1,069	13	94	297	134	14	1,621
	Total	10,078	3,218	3,558	1,064	177	27	18,122
DOMESTIC	Scheduled	2,572	1,455	741	946	-	-	5,714
	Non Scheduled	1,825	36,405	7,780	799	43	207	47,059
	Private	1,244	167	200	487	193	75	2,366
	Total	5,641	38,027	8,721	2,232	236	282	55,139
TOTAL	Scheduled	10,519	2,924	1,123	1,170	-	-	15,736
	Non Scheduled	2,887	38,141	10,862	1,342	86	220	53,538
	Private	2,313	180	294	784	327	89	3,987
	Total	15,719	41,245	12,279	3,296	413	309	73,261

NB: military movements excluded

5.3 Passenger movement by type of operation

For international and domestic movements, scheduled passenger movements are the highest, followed by non-scheduled operations (Figure 7). Overall the number of scheduled passenger movement is dominant.

Figure 7: Passenger movement by type of operation



5.4 Passenger movement by type of movement, operation and by airport

The same pattern reflected by international aircraft movements features for passenger movements. International scheduled passenger movements are higher at SSKIA followed by Maun airport, whereas international non-scheduled movements are dominated by Kasane airport (Table 5). SSKIA had the highest number of private passenger movement followed by Francistown airport.

SSKIA had the highest number of domestic scheduled passenger movement, whereas domestic non-scheduled movements are dominated by Maun airport followed by Kasane. SSKIA also leads the private domestic movements followed by Francistown airport.

Overall SSKIA leads the scheduled and the private passenger movements whereas Maun dominates the non-scheduled passenger movements.

Table 5: Passenger movement by type of movement, operation and by airport

		SSKIA	Maun	Kasane	F/town	S/phikwe	Ghanzi	Total
INTERNATIONAL	Scheduled	291,349	40,479	8,873	6,309	-	-	347,010
	Non Scheduled	32,358	3,808	8,037	1,829	145	56	46,233
	Private	2,113	37	75	846	438	23	3,532
	Total	325,820	44,324	16,985	8,984	583	79	396,775
DOMESTIC	Scheduled	89,932	53,510	18,378	33,930	-	-	195,750
	Non Scheduled	7,307	109,676	32,059	3,299	156	362	152,859
	Private	2,786	161	211	1,119	509	92	4,878
	Total	100,025	163,347	50,648	38,348	665	454	353,487
TOTAL	Scheduled	381,281	93,989	27,251	40,239	-	-	542,760
	Non Scheduled	39,665	113,484	40,096	5,128	301	418	199,092
	Private	4,899	198	286	1,965	947	115	8,410
	Total	425,845	207,671	67,633	47,332	1,248	533	750,262

NB: military movements excluded

Section 6: Cargo and mail volume

The total amount of cargo and mail handled from 2006-2010 is shown in Table 6. The total cargo volume has been declining gradually since 2006. Domestic cargo volume increased by 11.9% while international cargo volume dropped by 59.3% in 2010 compared to 2009.

Mail handling is mainly domestic volume with an increase of 71% in 2010.

Table 6: Mail and cargo volume (kgs)

Cargo (kgs)	2006	2007	2008	2009	2010
Domestic movement	222,208	250,202	227,521	232,490	260,244
International movement	798,084	847,995	840,318	704,397	286,871
Total	1,020,292	1,098,197	1,067,839	936,887	547,115
Mail (kgs)					
Domestic movements	1,919	1,306	1,429	1,683	2,878
International movement	164	35	26	0	0
Total	2,083	1,341	1,455	1,683	2,878

Section 7: Over-flights movement statistics - 2010

7.1 Over flights aircraft movement statistics by month

Table 7 shows that the total number of en route movement statistics was 46,578 in 2010. June had the largest number of over flights movements and the second highest is July. This was attributed to the world cup event which was held in South Africa. The movement generally went up by 7.2% in 2010 compared to 2009.

Table 7: Over flights aircraft movement statistics by month 2009 – 2010

Month	2009	%	2010	%	Growth rate(%)
Jan	3,278	7.5	3,385	7.3	3.3
Feb	3,052	7.0	3,340	7.2	9.4
Mar	3,488	8.2	4,342	9.3	24.5
Apr	3,560	8.2	3,684	7.9	3.5
May	3,588	8.3	3,921	8.4	9.3
Jun	3,732	8.3	4,349	9.3	16.5
Jul	3,740	8.6	4,321	9.3	15.5
Aug	4,024	9.3	3,684	7.9	-8.4
Sep	3,807	8.8	3,910	8.4	2.7
Oct	4,035	9.3	3,977	8.5	-1.4
Nov	3,633	8.5	3,928	8.4	8.1
Dec	3,513	8.1	3,737	8.0	6.4
Total	43,450	100	46,578	100	7.2

7.2 Over flights aircraft movement statistics by flight rule

The distribution of over flights aircraft movement statistics by flight rule shows that majority (96.1%) of the aircrafts used instrument flight rule and only a few used visual flight rule during the year 2010.

Table 8: Over flights aircraft movement statistics by flight rule

	2009	%	2010	%
IFR	41,802	96.3	44,697	96.1
VFR	1,615	3.7	1,813	3.9
Total	43,417	100.0	46,510	100

IFR- Instrument flight rules, VFR - Visual flight rules

7.3 Over flights aircraft movement statistics by weight and type of operation – 2010

Most of the aircrafts using Botswana airspace are scheduled operations. Over flight movement statistics also shows that majority are of medium weight followed by heavy weight.

Table 9: Over flights aircraft movement statistics by weight and type of operation - 2010

	Scheduled	Non scheduled	Total
Heavy	13,220	1,138	14,358
Medium	18,574	5,445	24,019
Light	877	4,720	5,597
Total	32,671	11,303	43,974