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# Status of Elephants and Poaching for Ivory in Malawi: A Case Study in Liwonde and Kasungu National Parks

Francis X. Mkanda

## Abstract

An assessment of elephant distribution, numbers, and mortality was undertaken in November 1991 in Malawi. Elephants occupy three recognizable ranges totaling about 10,480 km<sup>2</sup>. Two of the ranges cross international borders, into Zambia and Mozambique, while the last one is fragmented within Malawi. Within these ranges the elephants occupy five major habitat types.

Data from Liwonde National Park show that the elephant population has remained stable since 1978. The population in Kasungu has most probably declined due to crop protection shooting and poaching.

## Introduction

Poaching for ivory appears to have increased in Malawi during the ivory trade post ban period (Dublin and Jachmann 1991). The increase was in spite of a 20% increase in the budget, and a constant mean area coverage per vehicle. The increase in poaching was of concern as 65% of the population estimates were educated guesses, while 30.5% were from outdated surveys (Anon., 1991), and therefore it was necessary to conduct surveys to assess elephant numbers and the extent of poaching.

Funds from the US Fish and Wildlife Service enabled us to conduct the survey in November 1991. The funds were, however, not adequate to conduct surveys in all nine protected areas. Therefore we limited coverage to 6 national parks and game reserves that harboured elephants in 1987. We used different methods to assess the numbers depending on the terrain and sizes of the study area (Douglas-Hamilton, 1992). For example we used aerial sample counts in Kasungu and Vwaza Marsh. In Liwonde National Park we used a total count, and in Nyika, Nkhotakota and Majete we conducted dung counts. We collected mortality data from ledgers kept in each area.

Most of the data are still being analysed. Therefore this report considers elephant numbers and mortality due to poaching in Kasungu and Liwonde National Parks only. A full report will be available in due course.

## Distribution of Elephants in Malawi

The elephant population in Malawi most probably occurs in protected areas only. Two ranges cross international boundaries. In the west, the range extends into the Luangwa Valley in Zambia, and includes the population of Vwaza Game Reserve. In the south, the Namizimu, Mangochi and Liwonde elephant populations are probably part of the range that spans eastward into Mozambique. There is also a fragmented range within the country inhabited by the population of Majete, Phirilongwe, Thuma and Nkhotakota.

By 1989 the elephant range in Malawi covered an area of 10,480 km<sup>2</sup> traversing 5 different habitat types. These are: the alluvial plains, open canopy woodland of hills and scarp *Brachystegia* species, open canopy woodlands of the plateaux (*Brachystegia/ Julbernardia/ Isoberlinia*), mixed . thicket/ woodland of drier upland areas, and woodland/savanna .(mixed species). The 1991 survey suggests a similar distribution in terms of habitat types. The area occupied presently by elephants is not known as we excluded forest reserves in the present survey. Little poaching has been reported in these areas since 1991, and it is therefore likely that forest reserves still contain elephant populations, but these areas need to be surveyed to confirm this optimism.

## Population Status

The 1992 counts show a total of 354 elephants in Liwonde and 926 elephants in Kasungu (Table 1). The trend in Liwonde shows little change between 1978 and 1992 (Figure 1). In contrast, elephants in Kasungu appear to have recovered from a population low recorded in 1987, to numbers close to those

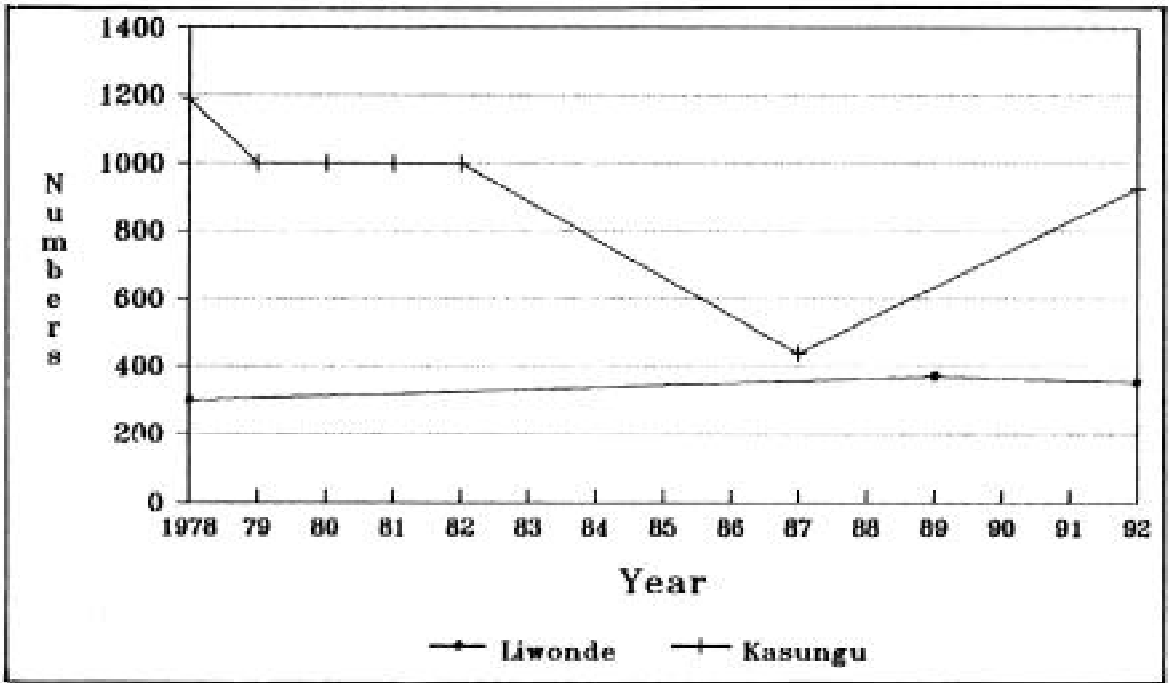


Figure 1: Elephant population trend in Liwonde and Kasungu National Parks in Malawi

recorded in 1978-82 (Table 1, Figure 1). However, the decline and rise of the elephant population in Kasungu between 1987 and 1992 (Figure 1) should be treated with caution. The apparent decline in 1987 was because of under sampling (Mkanda and Mphande, unpublished data). In 1987 we sampled only 12% of the park while in 1992 the sample size was about 38%.

Table 1: Elephant population estimates, Liwonde and Kasungu National Parks

Year	Liwonde	Kasungu
1978	300	1189
1979-82	-	1000
1983-86	-	-
1987	-	440
1988	-	-
1989	371	-
1990-91	-	-
1992	354	926

A larger number of elephant carcasses were found in Kasungu than in Liwonde from 1985 - 1992 (Table 2). However, this could be due to a variety of factors including differences in the size of the elephant populations in the two areas or differences in patrolling efficiencies. Given observed trends in the two elephant populations, it would appear that poaching is higher in Kasungu than Liwonde. This

Table 2: Elephant mortality due to poaching, Liwonde and Kasungu National Parks

Year	Liwonde				Kasungu			
	M	F	Un	Total	M	F	Un	Total
1985	0	0	3	3	6	3	6	15
1986	1	0	0	1	6	5	26	37
1987	1	0	4	5	2	0	7	9
1988	1	0	25	26	5	4	7	16
1989	0	0	0	1	5	6	15	26
1990	1	1	7	9	9	11	13	33
1991	4	1	0	5	12	13	1	26
1992	2	0	1	3	4	0	1	5
	10	2	40	48	49	42	76	167

M = male, F = female, Un = sex unknown

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differences could be because of the socio-cultural and economic setting of the two parks. Liwonde is surrounded by Muslim communities who prefer poaching for fish than meat or ivory, while Kasungu National Park is surrounded by subsistence and commercial farmers, for whom poaching helps recover their loans for agricultural inputs (Bell 1984).

## Conclusion

As part of a nationwide survey of elephants, data from two parks in Malawi show that elephant numbers have remained stable in Liwonde, but have most probably declined slightly in Kasungu due to poaching and crop control. The results from the full nationwide survey are still being analysed.

## References

- Anon. (1991). Report to CITES: Panel of experts on the African elephant on the proposals to transfer from CITES Appendix I to Appendix II the populations of *Loxodonta africana* of Botswana, Malawi, Namibia, Zambia, and Zimbabwe. pp 23.
- Bell, R.H.V. (1984). Traditional use of wildlife resources in protected areas. pp 297-316. In *Conservation and Wildlife Management in Africa* (Ed. R.H.V. Bell and E. McShane-Caluzi). US Peace Corps.
- Douglas-Hamilton, I. (1992). Methods of estimating elephant numbers. *Elephant and ivory information service*, 20: 1-4.
- Dublin, H. T. and Jachmann, H. (1992). The impact of the ivory ban on illegal hunting of elephants in six range states in Africa WWF Nairobi 31-35.

Photo by: Ralph Klumpp

