ELEPHANT MORTALITY IN SRI LANKA

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There is considerable publicity given in the press these days to the number of elephants that are being killed in Sri Lanka. The sustained interest by the media over the plight of the elephant underlines the strong emotion the animal arouses among Sri Lankans, and the extent of the support its conservation enjoys in Sri Lanka. There has also been some degree of criticism of the Department of Wildlife Conservation over its inability to resolve the human-elephant conflicts in the island and stop the slaughter of elephants. Much of the criticism against the Department of Wildlife Conservation is unfortunately rather unfair. The Department of Wildlife Conservation alone cannot be held responsible for the escalation of the human-elephant conflicts and the subsequent loss of lives among human beings and elephants.

It is a truism that, at any but the lowest density, large wild animals and human beings are fundamentally incompatible. As the densities of both large mammals and man increase, this incompatibility increases as well (Ferrar, 1983). In Sri Lanka, increasing human population and increasing agricultural land use have substantially reduced the area once available to wildlife. The situation in Sri Lanka, has changed from one in which man lived in small settlements in areas surrounded by elephants to one in which elephants are forced to inhabit small patches of forest surrounded by a landscape dominated by man. The elephant habitat is contracting as a result of conversion of forests and changes in land use patterns. Conversion of forests also serves to cut off certain channels of response available to the elephants, such as emigration and dispersion (Watson & Bell, 1969). The obvious result of a decrease in a species' range, is a decrease in its resource base, and for elephants, with their large body mass and intemperate appetite, this means that their flexibility to buffer the effects of local resource depletion by moving out is lost (Croze *et al.*, 1981). The long-term prospects for survival of such "pocketed" herds of elephants are grim (Seidensticker, 1984). The rapidly expanding human population of Sri Lanka is essentially being maintained by an agricultural economy. Thus, over large areas in the island, there is no longer room available for the elephants to move about and adjust their densities in response to changes in the agricultural landscape. When elephants lose their range, they die (Parker & Amin, 1983).

But the loss of elephants should not be viewed in isolation or as a recent phenomenon. Even when the human population was half its present size in Sri Lanka, wild elephants were killed by the hundreds by farmers in defence of their crops. Between 1945 and 1951,

according to the statistics given by the then Warden of the Department of Wild Life, Mr C. W. Nicholas (1952), on an average 100 elephants were shot as well as captured annually. In addition, 50-70 elephants were shot in defence of crops. Therefore the annual loss of elephants then amounted to between 150 and 170 (Nicholas, 1952). Between 1951 and 1969, a total of 1,163 elephants were lost in the wild (Figs. 1 & 3), of which 639 animals (or 55%) were killed in defence of crops (Table 1 & Fig. 2). Thus on an average, between 1951 and 1969, about 61 animals were lost annually (range: 27-121). This number includes the animals that were killed as crop raiders, those that died of natural causes and the ones that were captured. Fig. 2 gives the percentage loss of elephants (killed in defence of crops as well as by poachers between 1950 and 1970). On an average, about 34 animals were killed every year during this period.

Table. 1. Number of elephants lost in the wild in Sri Lanka (1951 - 1969)

Year	Number lost (total)	Number killed in crop defence & by poachers	% loss
1951	121	54	44.6
1952	75	39	52.0
1953	82	56	68.3
1954	81	51	63.0
1955	84	48	57.1
1956	79	24	30.4
1957	74	40	54.1
1958	51	23	45.1
1959	58	23	39.7
1960	35	28	80.0
1961	34	17	50.0
1962	27	16	59.3
1963	27	19	70.3
1964	47	27	57.4
1965	61	37	60.7
1966	62	40	64.5
1967	53	30	56.6
1968	43	21	48.8
1969	69	46	66.7
Total	1,163	639	
average	61	33.6	

The elephant population of Sri Lanka during the early fifties, according to the then Warden, Mr C. W. Nicholas (1952) was "popularly estimated at various times during the last few years to be 2,000 to 3,000", although in his opinion, Mr Nicholas himself felt that the population was "not much more than 1,000". He was very concerned at the high rate of loss of elephants in the wild even than and cautioned that at that rate of depletion, "the extinction of the Ceylon elephant will become inevitable". Concerned by the high losses of elephants in the wild, he recommended that "methods of driving wild elephants away from fields and *chenas*, without having recourse to shooting, should be tried out". Even at that time, Mr Nicholas recognized the need to protect the cultivators' crops if elephant conservation were to succeed. In the past, the defence of crops lay in vigilance during the nights by a number of people. Today however, the gun has replaced group vigilance.

One of the questions that Mr Gamini Punchihewa (1989), author of *"Souvenirs of a Forgotten Heritage"* often put to the villagers in Eastern Sri Lanka was how they managed to save their crops from the elephants at a time when there ware relatively more elephants than people in the areas where they lived? The answer he got from them was one of simple common sense. He was told: "Those days, a few people existed and in one *yaya* (a tract) or stretch of land, we cleared the jungle, and prepared the land for *chenas*, we put stockade fence, and we always avoided elephant paths. If we did come across them we fortified these vulnerable points with giant jungle logs. We kept watch from the heights of trees. We had our *tuwakku* (the muzzle loaders) and we had our *mantharams* (charms). Those days, except a *hora aliya* (a rogue elephant) we never shot other elephants. .....Today, most of these so-called farmers come from towns, they do not keep watch but sleep and only when they awake do they know what had happened to their crops" (Punchihewa, 1989).

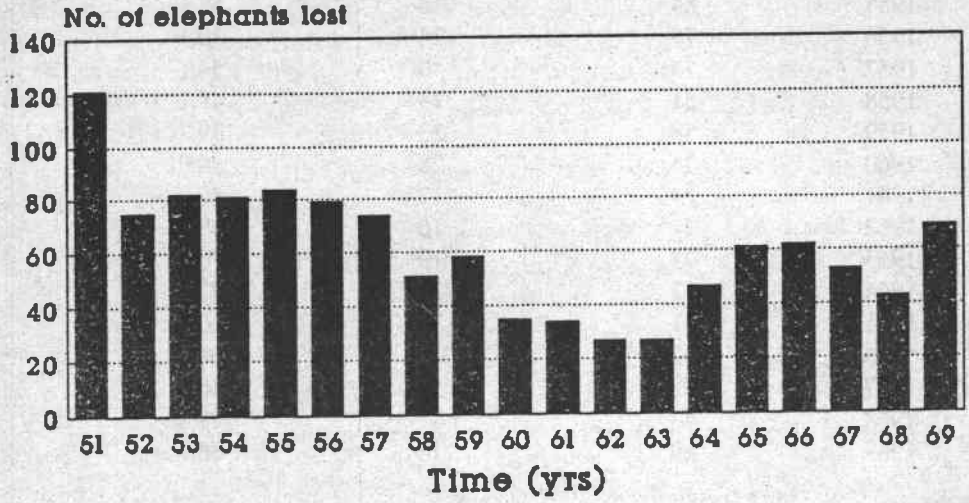


Fig. 1 Elephant Mortality in Sri Lanka

The situation today as far as the *number of elephants killed annually* is concerned, does not appear to be too drastically different from what it was about three or four decades ago. Between 1990 and 1993, a total of 165 elephants were lost in the wild of which 94 animals succumbed to gun shot injuries (Jayantha Jayewardene, pers. comm). Given the current high human population and low forest cover, it is indeed remarkable that elephant mortality in Sri Lanka has not increased substantially as one would have expected. The human-elephant conflicts in Sri Lanka are the result of many factors but deforestation remains the root cause of elephant depredations. In 1950, more than 50% of Sri Lanka was under forest cover. Even then between 150 to 170 elephants were killed annually (Nicholas, 1952). Today, the forest cover has declined to less than 24% (Geiser & Sommer, 1982), while the human population has increased from 6 million in 1950 to about 17 million. Elephants need natural forests to live and it would be unrealistic to expect the continued survival of elephants in large numbers across the island, in the face of declining natural forest cover. The highest percentage of forest cover today is found in the lowlands of the Dry Zone, which are precisely the areas where the elephants occur (Erdelen, 1988). Given this background, the overwhelming emphasis in any conservation policy must be in maintaining forest cover over large areas uninterrupted by human settlements and roads, where remoteness, difficulty of terrain and density of cover provide natural protection. But no area in Sri Lanka is really remote any longer and hence the long-term future of elephants in Sri Lanka must lie within the system of protected areas that can be managed. The island is rapidly approaching a stage when all the remnants of natural environment will be contained in a patchwork of national parks, wildlife sanctuaries and reserves.

Elephant numbers will inevitably shrink in the face of human population growth and attendant development needs, even without poaching. Problems related to elephant conservation in Sri Lanka stem directly or indirectly from human demography. All the gains in agriculture, literacy and health care are being undercut be one basic fact: Sri Lanka's human population more than quadrupled from 3.6 to 15.2 million, between 1900 and 1982. Today, the population is estimated at 17 million, equivalent to a population density of 259 individuals per square kilometre. By the year 2000, Sri Lanka may reach a population of 20.8 million, with a density of 318 individuals per square kilometre. (Erdelen, 1988). The trend in natural forest cover runs counter to the human population growth. However, aspirations by people to enhanced standards of living often cause greater pressures on undisturbed natural environments than sheer growth of human numbers (Myers, 1975). On the one hand people are tempted to have more and more consumer goods and on the other, they are asked to conserve natural resources: the two are incompatible.

It would be unfair to expect the Department of Wildlife Conservation alone to save the elephants in Sri Lanka. Conservation of elephants requires the participation of the public and private sectors. Conservation groups can play a useful role by helping the department of wildlife Conservation in mitigating the human-elephant conflicts. Many conservation groups do indeed play an important role by mobilizing public support in their flight to prevent the depletion of the wildlife resources. But as the late Felipe Benavides, the first recipient of the Getty Prize for Conservation once remarked, ***"Conservation***

organizations are like mushrooms: they grow up any time, they can be found everywhere. Some of them are very good, several are poisonous". There are a few private organizations, limited both in terms of scope and membership, who no longer view conservation as an objective in itself but rather as a means of amassing political and financial power. Such organizations can do more harm than good for conservation.

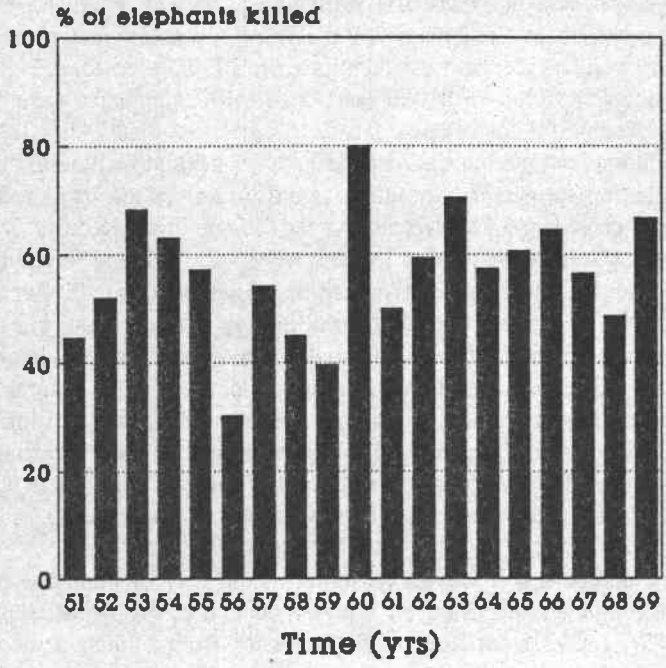


Fig. 2 Elephants killed between 1951 and 1969 in Sri Lanka

One must not forget the good work done in the past by the Department of Wildlife Conservation in Sri Lanka often with meagre resources. The guards work under difficult and trying conditions, far away from their families. Despite their low wages, they remain dedicated to their work. It is mainly due to their efforts that Sri Lanka still supports a viable elephant population in the wild. The guards and rangers are the "eyes and ears of the protected areas". But their work hardly ever gets a mention at National or International Conferences. Some of them have even lost their lives in the call of duty.

Time, money and trained manpower often act in many cases as brakes on what can be achieved in the field to resolve the human-elephant conflicts. The Department of Wildlife Conservation is the custodian of not only the elephant but all the species of wild fauna and flora as well. The emphasis on elephants provides a practical means for enhancing the overall conservation capacity of Sri Lanka. The Asian elephant is a "flagship species" and as such its conservation would maintain biological diversity and ecological integrity over a large area in Sri Lanka.

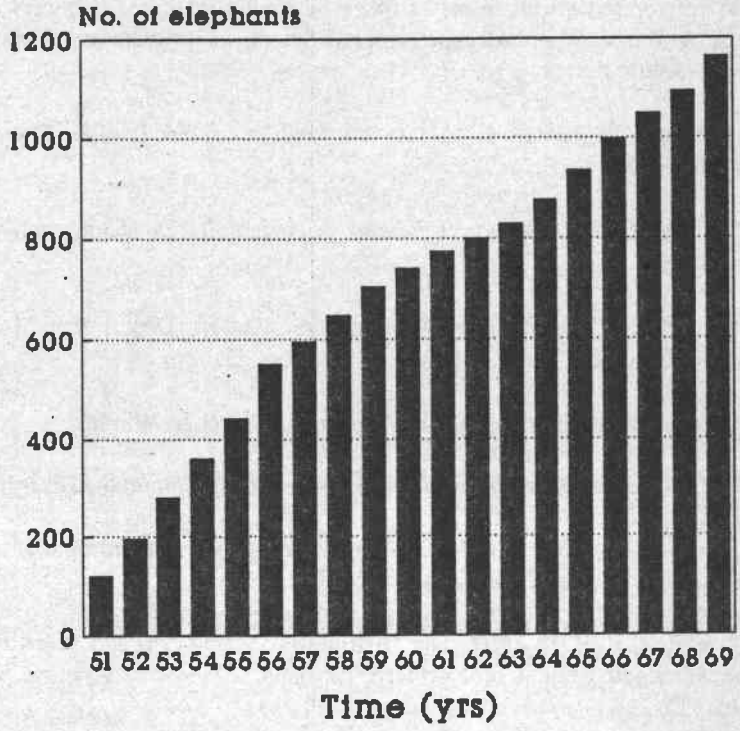


Fig. 3 Cumulative total of the number of elephants killed in Sri Lanka (1951-1969)

Elephant mortality in Sri Lanka must be discussed against the background of natural forest conservation. The two issues are linked. Every time an elephant is killed, the tragedy is given wide publicity by the news media. However, whn forests are destroyed or converted to other land uses, the public does not seem to show much cncern. If the elephant is to survive in Sri Lanka. then some sort of accommodation between man and elephant must be reached. Both have to live together by mutual adjustment. The communites that suffer from elephant depredations must be properly compensated for their losses. The local communities must be encouraged to participate fully in decisions affecting their land and resurces. Elephant conservation will be ineffective in the absence of widespread public awareness of the problems and their support for solutions.

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