

## The impact of civil war on wildlife in Sri Lanka

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War can be a mixed blessing to local wildlife and its habitat. It can have both beneficial and detrimental impacts on the environment. One example of the positive impact of war on wildlife was reported from Zimbabwe where elephant numbers increased in the Hwange National Park beyond the park's carrying capacity during the height of the civil war, as the situation had become too dangerous even for poachers<sup>1</sup>. The positive impact of war on the environment is largely due to the fact that it tends to keep people, including poachers, out of conflict areas<sup>2</sup>. This is attested by the spectacular bird diversity and numbers recorded from the Giant's Tank<sup>3</sup> in the Vanni region of the northwest Sri Lanka, from where a large number of people fled during the war. But this is an exception rather than the rule, for in most instances war tends to do more damage to wildlife and its habitat. In southeastern Angola, more than 100,000 elephants and 1000 rhinos perished at the hands of rebels and South African soldiers during the years of internecine warfare<sup>4</sup>. Sri Lanka is no exception: government troops and guerrillas have hunted wildlife for food. Their impact would have been most severe on large mammals with slow reproductive rates, as these are the ones that are likely to disappear first. In addition, landmines have also either killed or maimed an unknown number of large mammals including elephants.

After an interval of almost 18 years, the Wilpattu National Park, one of Sri Lanka's oldest and scenic conservation areas was re-opened by the Minister for the Environment and Natural Resources, Rukman Senanayake on 16 March 2003. Although the park still retains its charm as a beautiful and tranquil parcel of land, the ravages of the two-decade long armed conflict can be seen from the destruction caused to its forest and wildlife. In general, habitat destruction and the accompanying loss of wildlife are among the most common and far-reaching legacies of any armed conflict<sup>5</sup>. In Wilpattu, even the fear of landmines has not deterred unscrupulous people from extracting commercially valuable timber species. Poaching followed logging. The free

availability of guns during the war and the use of wire snares appear to have had a serious impact on wildlife. Spotted deer (*Axis axis*) used to be the most common and numerically abundant large herbivore in the Wilpattu National Park. But today, its numbers have declined significantly. Deer meat or venison is sold outside the park. Wilpattu is not an isolated case. Other protected areas (e.g. Yala East (Kumana) National Park, Flood Plains National Park, etc.) are also in danger of becoming 'empty forests'<sup>6</sup> if illegal timber extraction and poaching continue unabated. Uncontrolled hunting of wildlife not only reduces the population of the target species, but more importantly, it will cause 'landscape-level changes in habitats and faunal assemblages'<sup>7</sup>.

Protected areas in Sri Lanka face the twin threats of habitat loss and poaching. As commercial hunting is unsustainable, it is a far more serious threat to wildlife than subsistence hunting carried out by the poor people living along the edges of the conservation areas. These subsistence hunters do not have efficient guns or rifles; instead they hunt with primitive home-made guns that use powder, and hence their impact on wildlife is not as serious as that of the commercial hunters or organized gangs of poachers. Their exploitation of bushmeat is sustainable at present only because they do not possess the ability to cause serious environmental degradation, and not through an exercise of prudence. However, as Bowen-Jones and Pendry<sup>8</sup> point out, the key element in bushmeat trade becoming unsustainable is 'demand, not technology'. Thus, unless it is regulated, even subsistence hunting for bushmeat can become a conservation problem, especially if the number of people who practise it increases. The population density limit to subsistence hunting in tropical forests is about one person<sup>9</sup> per sq km. In his seminal paper, Garret Hardin<sup>10</sup> argues that 'the commons, if justifiable at all, is justifiable only under conditions of low population density. As the human population has increased, the commons has had to be abandoned in one aspect after another'.

Data on the impact of war on wildlife were difficult to obtain while the war was going on. However, with the cease-fire and the resumption of peace talks, it is now possible to visit many areas that were previously closed to the public. The information presented here was gathered from visits made to the Vanni region in the northwest of the island. Subsistence hunting for edible wildlife is common in areas where refugees have been resettled. In Vanni, where hunting has always been a part of the local culture, villagers hunt animals such as the jungle fowl (*Gallus lafayetti*), land monitor lizard (*Varanus bengalensis*), black naped hare (*Lepus nigricollis*), spotted deer (*Axis axis*), sambar (*Cervus unicolor*), barking deer (*Muntiacus muntjak*), mouse deer (*Tragulus meminna*) and wild boar (*Sus scrofa*). The cost per kg meat of the jungle fowl is much lesser than the cost per kg meat of her country cousin. The land monitor lizard is such a delicacy among the people of Vanni that it is no longer very common outside protected areas.

Almost all the refugees who are resettled in the Vanni region suffer from either chronic or seasonal under-nutrition. Poor diet influences mental development. As Kay<sup>11</sup> points out, the effect of shortage of dietary calories is more serious in young children under five years of age and in pregnant and lactating women. When faced with a lack of calories, the body breaks down amino acids for energy instead of using them to make new proteins. In comparison to vegetable proteins, animal proteins are usually richer in amino acids, mineral salts, trace elements and vitamins essential for growth. The ultimate effect of a continuous shortage of dietary calories is to slow down most human activities, with the apparent exception of the rate of reproduction<sup>11</sup>. Procreation may perhaps be the only form of recreation of the poor, as can be seen from the number of children born in refugee camps. What is needed is a mixture of plant and animal protein to ensure good health. Therefore, for the poor who eke out an existence, bushmeat is not a luxury but an essential source of the much-needed animal protein. It is also a commodity that can be sold<sup>12</sup>.

Even though as Ling *et al.*<sup>9</sup> point out, modern urban human communities cannot be sustained by the harvesting of wild animals; it would be both difficult and unfair to ban the trade in bushmeat completely, especially if people living in poverty depend on it for food and income<sup>13</sup>. Hunting bushmeat has become economically important even in areas where the main source of income is agriculture. Thus there is a need to regulate and manage the harvesting of bushmeat so that it can be made sustainable. Wild species are, after all, a renewable resource, and hence harvesting them is perhaps the only sustainable resource-use of consequence<sup>14</sup>. Controlled utilization of 'non-endangered' wildlife can be achieved through game ranching, so that they can be profitably cropped for human consumption. It is a common misconception among many that forests in tropical countries are the epitome of fertility and that all that is required for the production of fine crops is the introduction of modern machinery and mass production methods<sup>15</sup>. It is true that there are limited areas of high fertility, especially in the river valleys, but much of Vanni, especially the Mannar region is very arid. It is one of the driest regions in Sri Lanka. The clay soil becomes rock-hard during drought, making it extremely impervious to water<sup>16</sup>. Nomadism is a rational response to such seasonal variations in grazing and surface water. On such arid areas, game ranching would be a much sounder proposition than agriculture. Once game ranching becomes commercially established, the extinction of the wild fauna will be unlikely<sup>11</sup>. Under natural conditions, wild herbivorous animals are in perfect balance with the plants on which they feed. This has been established long enough for the animals to become adjusted to their environment, making use of all the food resources. The biomass of this wild fauna can be large, if predators are kept in check. Harvesting such 'non-endangered' herbivorous wild fauna in marginal habitats, offers a way of preventing the depletion of wildlife within protected areas. As Julian Huxley once remarked, 'wild protein can yield more profit than cattle or cultivation'.

While the viewing of wildlife in national parks has been a well-established and

accepted form of non-consumptive exploitation, the consumptive use of 'non-endangered' wildlife even outside protected areas is a thorny issue that is bound to arouse controversy in such a predominantly Buddhist country as Sri Lanka. Unfortunately, as Eltringham<sup>17</sup> argues, the problem with wildlife is that the people who wish to preserve it are rarely those who have to pay the cost. While the relatively affluent foreign tourists and local visitors enjoy a wildlife spectacle at minimal expense, the poor who share their land with wildlife remain destitute. The task of promoting game ranching is formidable, that would require a change of attitude from a large section of the population, both laity and clergy. It usually takes at least a generation to change people's minds. Furthermore, in the absence of minerals to exploit, the prosperity of the refugees who live on marginal lands, must depend on the careful exploitation of their forests, fisheries, wildlife and the few patches of agricultural soils<sup>15</sup>. IUCN's World Conservation Strategy<sup>18</sup> supports such exploitation of wildlife, provided it is sustainable and that the income so generated increases support for conservation. Despite rhetoric to the contrary, conservation funds from international donor agencies have failed to cater to the needs of these people. Much could be achieved even if a tiny fraction of these funds could be spent on improving the education, healthcare and welfare of the children who live close to protected areas. Even if the social and economic conditions of the children cannot be changed, the provision of adequate nutrition during infancy may help lessen the cognitive defects engendered by poverty. Education may help them acquire the basic skills to move out and find jobs than stay on and become trapped in the poverty vortex. For wildlife to survive on a significant scale outside protected areas, the needs of wildlife should be reconciled with the legitimate aspirations of the local communities<sup>17</sup>. Game ranching of 'non-endangered' edible wildlife such as wild boar that is both abundant and capable of replacing itself quickly, is sustainable and economically viable in many parts of rural Sri Lanka. Wildlife conservation must take into account not only ecology but also eco-

nomics. Placing an economic value on wildlife will promote its conservation. In the absence of economic incentives, no amount of legislation can save wildlife outside the protected areas. As Norman Myers points out, 'conservation in the developing countries has to sustain not only the spirit but also the stomachs'.

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