

# Living with dangerous animals

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WHICH animal is dangerous depends on who we ask, when and where. A construction worker in urban India today may consider even roadside domestic dogs as dangerous. A farmer in rural India perceives snakes in his fields as deadly, and I find vehicles far more dangerous than either dogs or snakes. Danger is a subjective feeling induced by various factors such as landscape, lifestyle, wealth, age, occupation, religion and so on of the person and not the actual danger.<sup>1</sup> Such has been my experience when working with leopards that live in human dominated landscapes, an assessment reiterated by many other carnivore ecologists.<sup>2</sup>

In the case of domestic animals, the food, care and protection provided by humans guarantees their survival in good numbers, whereas for most wild carnivores the future is seriously threatened. For a start, wild carnivores are intrinsically rare because they occur at the top of the food chain.<sup>3</sup> Further, they have a long interval between litters and produce few young of which even fewer survive until adulthood. This combined with human induced factors such as habitat destruction and active persecution severely depresses their numbers.

Even as we expect wild animals to be confined to an existence inside forests, some species like hyenas, wolves and leopards (even cobras) can thrive outside forests, in human dominated landscapes. Since their mere presence is often construed as a precursor to danger, we need to understand how to deal with them when they live near people. Mismanaging these animal populations in a populous country like India will almost certainly lead to an increase in their potential for danger, either via increase in livestock attacks or attacks on people. This essay discusses dangerous wild animals that live near humans and not conflicts that arise due to the presence of parks, or human induced habitat degradation.<sup>4</sup>

**S**ome threat of attack on people by wild carnivores will always be present in areas where humans and dangerous wild animals coexist.<sup>5</sup> However, serious concern arises when people are deliberately attacked (picked up from inside houses and/or the body eaten) by these animals. India probably reports the highest level of attacks on people by many species of large carnivores (wolves, bears, tigers, leopards, lions) and it comes as no surprise that most of the attacks are outside our parks, among human habitations. This could be attributed to the density of people sharing the land with the carnivores. However, a closer look at the information indicates that purposeful attacks on people by different species of dangerous animals are isolated either temporally and/or spatially. Possibly, premeditated attacks are anomalies that we have not yet fully understood.

**M**ore than 700 lives were lost to wolf attacks in the late 1880s in the North West provinces and 600 kms away in parts of Bihar. The incidents occurred from the late 19th century until the 1930s and then again from 1970s until the late 1990.<sup>6</sup> But, wolves have ranged across the rest of India and still do, even living close to populated towns and cities with no comparable levels of conflict.<sup>7</sup> Incidents of lions attacking and eating people in the vicinity of Gir, Gujarat occurred between 1901-1904, and again from the late 1980s, and was attributed to the drought in these periods.<sup>8</sup> No similar cases were reported in-between.<sup>9</sup> In fact the Asiatic lions had a reputation of being extremely docile creatures<sup>10</sup> whereas the people reported more aggressive behaviour after the surge in conflict in the 1980s.<sup>11</sup>

**L**eopards occur throughout India but increased aggressive behaviour has again been isolated in time or space. Bears too occur in most forested parts of India but attacks on people have been reported from few areas – 137 attacks were reported between 1998 and 2000 from the villages and adjoining forests in the North Bilaspur forest division in Chhattisgarh,<sup>12</sup> a state carved out of Madhya Pradesh (where wolf problems were reported).<sup>13</sup> A surge in bear attacks on people in the state of Jammu and Kashmir was reported in 2007.<sup>14</sup>

In the case of tigers, there are historical records of tigers killing large numbers of people in India but again there is indication that this was more an exception than the norm.<sup>15</sup> Chronic man-eating cases over several decades and even centuries have been reported only from the Sunderbans.<sup>16</sup> In yet other tiger reserves with higher densities of tigers, the same species allow large number of tourists to approach very close in open vehicles.

Animals like wolves, tigers, leopards and lions can indeed be dangerous to people. However, attacks on people are more an exception than the norm and attacks on livestock usually indicate that wild prey is not present in sufficient numbers. Our study of leopards living in a predominantly human dominated landscape in Junnar found that the number of tended livestock (owned by people) attacked was few compared to the number of leopards present in the region.<sup>17</sup> Therefore, even in a human dominated landscape, these animals are more likely to go for prey other than that actively protected by people.

**T**he predominant response to the problem of wild carnivore has been a call for their removal – either by trapping or killing them. In the states of Washington and Idaho (USA) between 1987 and 1990, 82-330 mountain lions were killed each year.<sup>18</sup> In Namibia between 1980 and 1991 about 7000 cheetahs were killed in response to livestock depredation.<sup>19</sup> In Montana (USA) 4116 bounty payments were disbursed for wolves in 1903.<sup>20</sup> Scandinavia with a population density of less than 20 people per sq km, exterminated all its wolves by 1960, the bear went functionally extinct (too few individuals) in Norway by 1972 and wolverine and lynx populations severely declined due to unregulated hunting approved by the administration.<sup>21</sup>

**I**t is only now with changing attitudes that these four carnivore species are recolonising parts of Europe and the Americas. Also, scientists have questioned the efficacy of lethal control as a method of dealing with livestock killings. Killings do not necessarily reduce livestock depredation and the error in determining the identity of the ‘culprit’ animal is very high. For instance, in the USA, between 1996 and 2001, millions of innocent carnivore animals were killed.<sup>22</sup> In India these methods have not even been standardized, perhaps leading to the trapping/killing of a large number of innocent animals.

Even today, most countries lethally control carnivores either as a response to livestock depredation or to increase the populations of wild ungulates for people’s consumption or for trophy hunting.<sup>23</sup> In India wild ungulates are not regarded as food meant for routine harvesting, nor do we carry out hunting for trophies. Given that India has 0.18 billion<sup>24</sup> livestock (living with a human population of one billion), livestock depredation is inevitable.

What is surprising is that India with an average population density of 337 people per sq km still retains 57 of its 58 carnivore species (we lost the cheetah in the early 20th century) of which 14 weigh more than 10 kilos (making them potentially dangerous to humans). India never practiced large-scale extermination and/or bounty killing of these dangerous animals as an administrative exercise. The carnivores were hunted/worshipped/revered/tolerated and bounty killing or the concept of exterminating the entire species because it was dangerous arrived with the British.<sup>25</sup> A conservative estimate of the number of tigers killed between 1875 and 1925 in the plains is 65000 (16,573 killed between 1879-1888) while more than 100,000 wolves were killed in British India between 1871 and 1916.<sup>26</sup>

However, in the face of conflict, retaliatory killings do and will take place. Though until the 1970s/1980s, it was possible for the administration to kill unwanted feral animals and wild animal individuals that had become dangerous to human life, but post the 1980s, the shift in political ideology towards the welfare of individuals has made lethal control of even problem carnivores almost impossible.

**C**urrently large numbers of potentially dangerous animals (snakes, bears, tigers, lions, leopards) are trapped following complaints of livestock depredation and sometimes human attacks and released in forests away from where they were captured. Studies on captive wild carnivores show that moving wild animals, even those that have always been in captivity, to another new enclosure significantly increases their stress levels.<sup>27</sup> Moreover, prolonged heightened stress brings about hormonal changes which increases aggression.<sup>28</sup> Our study in Junnar<sup>29</sup> found that leopards living in human dominated landscapes (density of people > 170 per sq km) without any conflict, when removed from their area to another new site led to the initiation of attacks on people. That is, animals living without attacking people even in high human density areas were responsible for attacks on people when not ‘treated’ correctly.

**P**aradoxically, the removals that we carry out might even increase the population *at the site of removal* because a vacant territory is like a vacuum that is immediately filled by a younger inexperienced animal which can potentially be more dangerous.<sup>30</sup>

Snaring and killing of individuals in the population can also increase the danger to humans because wounded animals are unable to effectively hunt normal prey. Even as 20,000 tigers were killed as trophies between 1860 and 1960, a British naturalist estimated that as many as one in five tigers shot in the 1930s escaped,<sup>31</sup> increasing the danger of attacks on humans.

The lack of information on the effect of our control programmes on their behaviour has already been pointed out.<sup>32</sup> There is also little doubt that since removal of any sort affects their populations in myriad ways, we need to understand how this contributes to the creation of problem individuals.

**D**oes a sub-adult animal watching its mother killed or trapped by humans understand the implications? If it cannot hunt effectively on its own, does that affect conflict levels as the hungry animal tries to obtain food? How does this stressful experience affect its attitude towards humans? At the risk of sounding anthropomorphic, how might wolf parents react when they see humans burning their pups alive? If, as I think, they are aware of what we have done, how does it affect their behaviour towards to us?

My work has focused on human leopard conflict in a human dominated landscape inhabited by large numbers of people and leopards. At the height of the conflict, between 2001 and 2002, leopards in the Junnar forest division, Pune district, attacked 50 people. There were reports of leopards taking children sleeping between parents from outside houses. This problem in the irrigated croplands was attributed to decreasing forest cover and wild prey, forcing the leopards to stray into sugarcane fields and thus increasing the potential for conflict. It was apparent that not many people (managers, public, media) were aware of the biology of the animal and its relation to the problem.

No attack had taken place in the same region the year before the surge in attacks on people. Following the surge, at least 60 adult (at least three years old) leopards were removed from the region, indicating that these 60 had been living in the same region without attacking people.

The very first attack created panic among the media, authorities and the public, which only worsened the problem. This panic reaction was compounded by a lack of understanding of the biology of the species. It was believed that the leopards were moving into the croplands from the adjoining forests (about 60 km away). Leopards (like other carnivores) are territorial species and unlike herds of wildebeest do not migrate from habitat to habitat. It was also thought that the lack of wild prey in the forests had made them enter the croplands, not realizing that the presence of leopards implies the existence of sufficient food to support and sustain them. If their food resource of carnivores is scarce in a landscape (e.g., fewer rats, fewer dogs, goats) then their response is to traverse across a wider area in search of food.

**I**t appeared that human dominated croplands reporting the presence of a large numbers of leopards were adjacent to forests into which leopards trapped in a wider area had been released over the years,<sup>33</sup> thus increasing their numbers near the release site. Finally, our (public, media, managers) perception that leopards found outside forests have to be put back inside only worsened the problem by increasing attacks on people near the site of release, a clear instance of wrong human intervention.<sup>34</sup>

**W**ild animals greatly fear man. Our methods of catching the wild animals are faulty and likely to lead to stressful and close interaction with man, thereby increasing their potential danger for us after their release. A leopard trapped in a cage is akin to our being stuck in a lift. To worsen matters, the trapped leopard is surrounded by hundreds of people. It is normally wounded as it thrashes in the cage in an attempt to escape. Subsequently, the same animal is then transported tens or hundreds of kilometres, unsedated, along highways, fed by humans, to be released elsewhere. This method is routinely used for all carnivores that are perceived as a 'problem' in India (snakes, bears, leopards, tigers, leopards, lions).

It is unlikely that India will in the near future accept the management practices of the West. Of course, they might not even be appropriate. As argued by Weber and Rabinowitz,<sup>35</sup> perhaps innovation is required and other cultures and regions need to provide lessons which might make it possible to evolve better ways for humans and carnivores to coexist.

Carnivores will survive only if the people want them to.<sup>36</sup> People will want them only if they accept that these animals are not inherently dangerous, and though as with any other natural disaster, a threat does exist from these animals, we are capable of proactively reducing it (towards livestock as well as human life) and that people need to be provided assistance before (to prevent attacks) and after attacks. Moreover, various sections of our society need to be educated that our current methods of dealing with dangerous animals will only result in an increased danger.

**P**eople affected by carnivores are predominantly poor/rural people<sup>37</sup> whereas policies (including erroneous ones such as removal from site of problem and release elsewhere) are made by the urban people who are rarely affected. Many researchers have shown that a proactive method of educating the people, along with assistance to reduce their losses has enabled a greater

level of coexistence. It is worth remembering that many scientists working with very 'dangerous' animals like elephants, carnivores and snakes have noted the deep-rooted tolerance that rural Indians show, even in the face of conflict. Such has also been my experience.

Villages have often stopped the forest department from trapping leopards from their area. A father of a boy who was injured in a leopard attack did not think it necessary to inform the department about the presence of another leopard near his house because the animal had not harmed anyone. Most of these rural farmers believe that the problem is due to the loss of wild lands and prey, making species like the leopard come near people. It is important that these aspects of carnivore conservation are not forgotten because of our bad policies.

**P**eople can be convinced to accept the presence of these dangerous species if made aware of the problem and provided assistance, an aspect often ignored by NGOs and the administration in our country. Only providing monetary compensation will not help especially when obtaining the compensation is an arduous process.<sup>38</sup> Hussain<sup>39</sup> and Mishra,<sup>40</sup> both working for the conservation of the snow leopard in the Himalayas, have helped the local people to set up insurance schemes which insure the livestock against attacks from snow leopards. These scientists have put in a lot of effort to involve the affected people and make them aware of the nature of the problem.

Similarly, Marker worked with the livestock ranching farmers in Namibia to stop them from killing large number of cheetahs. Removals were not helping and as is the case of the leopard in India, were adversely affecting the farmers. Again she helped the people by providing knowledge and support on better livestock protection.<sup>41</sup> Hazzah<sup>42</sup> worked with the Kenyan Maasai to start a programme wherein the Maasai are involved in monitoring livestock depredation as well as in protecting the lions. Again she assisted them by providing a knowledge base as also by starting a small scheme that employed the local Maasai to look after the lions.

**W**ildlife cannot be restricted to the limited spaces which form our protected areas, especially when dealing with carnivores that have very wide ranging habitats. A single wolf pack can range over hundreds of kilometres, implying that any ecologically meaningful population will require many times that space. Coexistence with humans then becomes a necessity for the animals. In Europe bears, wolves and lynxes move across country borders making the concept of demarcating inviolate spaces for them meaningless. If we want these species to survive then we have to learn to live with them in ways that reduces their danger, just as we take precautions when we visit malaria prone areas or when crossing the road. Besides, we have to acknowledge that the threat from these dangerous animals is miniscule compared to deaths from malaria or road accidents.

However, in order to devise better methods of coexistence, we have to change the way we look at these animals. Currently we do not know enough about the dangerous animals living near people and this knowledge is especially crucial for a populous country like India. Studies related to attacks on people have focused mainly on patterns following livestock depredation or human attacks. No study has been conducted which helps us understand how the majority of these dangerous animals live without causing any harm.

Our study in the Ahmednagar district, Maharashtra found that most of the leopards that were trapped due to public pressure or livestock attacks had been living among high densities of people (> 200 sq km) without ever attacking people.<sup>43</sup> Only when we appreciate how they live without creating a problem can we begin to understand the aberrations. For instance, a radio-collared leopard living in a sugar-cane field in Gujarat was within 50 m of people most of the time and yet the villagers were not even aware of her presence. She used an area of over 200 sq km, had cubs and finally died due to human persecution, though not once had she ever attacked people.<sup>44</sup>

**O**ur knowledge base of how dangerous animals can be has to be obtained by focusing on how they live without becoming a problem. Scientists, conservationists and the administration have to assist the people in devising better livestock protection measures while simultaneously decreasing potential food base for the dangerous animals near human habitations (such as garbage for feral animals, rats in case of snakes). By appreciating the fact that India has retained most of its dangerous species by weaving them into its culture and religion, we should aim at finding culturally/socially/ politically acceptable methods of living with animals so that they become less dangerous to us. Killings, snaring, removal and the associated release of many potentially dangerous animals that is routinely carried out are only likely to increase the danger.

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