

Human–Wildlife Conflict in India

Addressing the Source

JENNIE MILLER, JOHN D C LINNELL, VIDYA ATHREYA, SUBHARANJAN SEN

Approaches for resolving incidences of human–wildlife conflict such as predator attacks on people or livestock typically use methods that address physical loss but ignore social, cultural, and emotional trauma. To holistically and more permanently alleviate conflicts, wildlife management agencies and other conservation practitioners require resources and training in outreach and public relations, and need to expand their toolkit of approaches in order to connect with varied stakeholders in a greater diversity of settings.

Jennie Miller (jmiller@panthera.org) is with Panthera and the Department of Environmental Science, Policy, and Management at the University of California, Berkeley.

John D C Linnell (john.linnell@nina.no) is with the Norwegian Institute for Nature Research, Trondheim, Norway. Vidya Athreya (vidya.athreya@gmail.com) is with the Centre for Wildlife Studies and the Wildlife Conservation Society–India Program. Subharanjan Sen (subharanjan.sen@gmail.com) is with the Madhya Pradesh Forest Department.

Wildlife managers and other conservation practitioners represent the wildlife they manage or research. When wildlife damages people’s property or affects the lives of family and friends, these authorities are often required to step beyond their areas of expertise and training to address the needs of people. Managing people well—especially in sensitive situations when they have faced a serious personal loss to wildlife—is critical to conserving wildlife.

But how exactly do you explain to a stranger that her husband has been mauled by a sloth bear, or tell a farmer that a tiger has devoured his cow on which he relies for his sustenance? Local people’s interactions with the administration—often considered a representation of wildlife itself—start with the way in which people are treated as they receive the news of such losses. These moments can be traumatic and emotionally charged, especially when it is a human life that has been lost. The households wrestling with these losses are then often expected to carry out long protracted procedures to claim financial compensation payments, a process which again defines their view of the larger administrative and governmental system, as well as shapes their future willingness to engage with wildlife authorities and tolerate the proximity of wildlife.

In such contexts, a conservation practitioner’s “people skills” play a critical, yet currently underappreciated, role. In that fraught moment, the individual who represents the authority is seen as a custodian of the wildlife species causing the loss (livestock, crop or human). They also take on another, greater role, that of a human being reacting to the loss of another human, one that requires empathy, humility, and respect. Some people possess these skills naturally and make for very effective wildlife managers with little need for further training. For others, these skills need to be taught and fostered by institutional culture. However, training in dealing with people in trauma and conflict has not been an important part of the curriculum for conservation biologists, practitioners, and wildlife managers. In this article, we build on our collective experiences as conservation professionals to discuss strategies related to public relations that could better equip researchers, forest administrations, and other conservation practitioners in caring for people as well as wildlife.

Important Stakeholders

In December 2016, at the Central Indian Landscape Symposium in Pench Tiger Reserve, we sat in a room with other conservation practitioners, researchers and managers working on environmental conservation in central India (and beyond), and sculpted our vision for an India where spaces shared between people and wildlife could be less damaging to both sides. After we discussed our way through species population counts

and case studies of conflict mitigation, we realised that despite rigorous science and numerous community-based conservation methods, one vital piece is still often neglected: skills for dealing with humans. India's "boots-on-the-ground" front-line staff, the Indian Forest Service (IFS), who bravely broach the interface between man and animal, and are trained extensively in forest management, wildlife biology, and law enforcement, often lack resources and pivotal training in public relations. Similarly, the conservation biologists at universities and the practitioners from non-governmental organisations (NGOs) are often knowledgeable and passionate about environmental needs and community-orientated conservation initiatives, yet are rarely trained in conflict mediation. But insensitivity to people's well-being means that systems meant to assist—such as financial compensation—instead may insult and frustrate the people that they are meant to help.

These issues are becoming increasingly important as the arena for wildlife conservation in India is shifting. After decades of focus on effectively protecting wildlife in the cores of protected areas, studies are now shifting to examining the many species residing in the wider landscape of forested buffer zones and multi-use areas such as farmlands. This expanded interface between humans and wildlife creates an entirely new setting for both researchers and management authorities where the tools of the past are no longer adequate for the future.

Researchers and management authorities now need to be more proactive in engaging with diverse stakeholders as environmental stewards, rather than view these people as threats or passive bystanders, or wait to react after incidents have occurred. Environmental conservation in this wider landscape beyond protected areas now also requires identifying important stakeholders and then proactively engaging with them, be they tribal communities, farmers, infrastructure developers, mining corporations, or policymakers. It is time for our conservation community to become fluent in the language of humanity—and

here we offer ideas and resources that could assist us in the process.

Mediation and Empathy

Scientific evidence shows that people base their behaviour towards wildlife more on social factors than the realities of wildlife threats (Dickman 2010; Redpath et al 2012). A person's social network, social standing, gender, financial stability, beliefs and values all contribute to their decisions about how to engage with their environment. For example, one social element that largely shapes the attitudes and behaviour of rural people in India, and worldwide, is their relationship with local authorities (Madden 2004; Ogra and Badola 2008), such as the Forest Department. Whether or not people trust and respect their locally residing forest guard, can play an important part in whether they choose to engage with government programmes, such as those providing financial compensation for livestock losses, or suffer the social and financial burdens of living alongside wildlife without support.

As first responders to crisis situations involving physical loss, conservation practitioners frequently engage with people who are experiencing intense emotions as they wrestle with the loss of a family member, precious resource, or income. Trust, respect, cultural sensitivity, and empathy are crucial elements of the professional relationship that must be clearly conveyed, not only as part of the human-to-human connection, but as part of the professional process of conflict mitigation. Efficiency and transparency in the legal and financial systems by which victims will be assisted are also necessary to help them feel in control, at ease, and assured of the next steps. We recognise that maintaining trust, empathy, and transparency will not always be easy, especially in situations when the authority is simultaneously reprimanding illegal activities and compensating loss. The Forest Department, for instance, faces this challenge on a daily basis, and officers and staff are highly skilled at intercepting illegal forest activities. Boosting staff training in public relations will create fundamentally stronger relationships between local people and

forest officers that help mitigate—and possibly even prevent—conflict situations.

With training in outreach, mediation and conflict intervention, the Forest Department and other conservation practitioners would enhance their abilities to prevent the escalation of conflicts and help victims receive the care and resources they require. We recognise that the Forest Department especially is already overstretched in terms of resources, and adding these new skills will require extensive training of existing staff as well as employment of new staff with different skill sets. However, we believe that an initial investment in these approaches will produce long-term benefits.

Cultivating relationships that establish trust while maintaining authority is a skill that requires formal training and resources, just like any other professional skill. Several resources and opportunities are available to assist with training. For instance, the Human–Wildlife Conflict Collaboration is an NGO that offers trainings to governments (for instance, in Bhutan, Uganda, and the United States) and individuals in conflict transformation with examples specifically relevant to human–wildlife conflict situations. Additionally, the national- and state-level forest services and departments have highly structured, well-established training programmes which offer the opportunity to incorporate new lessons, perhaps with insight from NGOs and private companies that specialise in conflict mediation and trauma treatment. A key first step will be to introduce a set of new modules into this programme that emphasise the people skills mentioned earlier.

Expanding the Toolkit

Many conservation practitioners, especially senior government officials, operate in a system of established routines and procedures; however, we must assess whether existing conflict management methods, such as paying financial compensation in its present form, are actually effective. The Indian wildlife damage compensation system is widely viewed as being overly complex, non-transparent, and slow, to the extent that

many victims of conflict feel unable or unwilling to engage with it (Agarwala et al 2010; Karanth et al 2012; Ogra and Badola 2008). This is especially true in the case of compensation for crop damage in central India. An accumulating body of research from other countries shows how making the same financial investments in proactive conflict prevention (rather than reactive compensation) can bring greater, and lasting, benefits. "Performance payments," in which communities are rewarded for protecting natural resources at a specified level, recently explored in Bandhavgarh National Park, Madhya Pradesh, is one such example (Zabel and Engel 2010).

Furthermore, certain subgroups of people may be especially receptive to trying new methods. For example, around Kanha Tiger Reserve, owners who lose livestock for the first time to wild carnivores express greater willingness to shift grazing grounds than owners who have lost animals previously, indicating an opportune time to educate and share financial incentives with stakeholders to help them protect their livestock (and avoid any future negative retributions against nature) (Miller et al 2016). There exists a wide range of techniques for protecting livestock better (Miller et al 2016). Many of these are already familiar and being used in parts of India, such as feeding livestock in stalls, housing small stock in predator-proof enclosures at night and using guard dogs to protect livestock. However, many livestock owners are not aware of such methods or lack the resources to invest in them. This is especially true in areas to which predators return after periods of absence. In addition, there are a range of newer methods in use in other countries that offer some benefits in certain situations, including *fladry* (coloured flags hung on fences to deter predators) and solar-powered flashing lights (Kermeliotis 2013). These techniques represent tools that address the source of the problem by reducing predator attacks and crop damage rather than simply compensating stakeholders who suffer losses post facto. Through providing education and financial subsidies to livestock owners and land owners, conservation authorities

and practitioners could more proactively prevent conflicts, which would reduce the need for conflict mitigation in the first place.

Whichever technique is employed—be it preventative or reactive—it must include buy-in from the people receiving the benefit. This shifts responsibility from the funder (for example, the forest department or a non-profit) to the people. Livestock owners who invest a percentage into protective infrastructure for their livestock are more likely to maintain and properly use the structures in the long term. Community-funded livestock insurance schemes (a popular tool for snow leopard conservation) are another example of successful programmes sustained through local commitment, though they require initial start-up resources and are probably better managed in areas with low human density in the higher Himalayas than in the densely populated settlements in the rest of India. However, it is important that innovative new ideas set in the Indian social context are experimented with and assessed for their efficacy.

Conservation practitioners must also draw on government financial support from agencies beyond the Ministry of Environment, Forest and Climate Change. Within the Ministry of Agriculture and Farmer's Welfare alone, for example, there exist several additional potential funding and logistics sources: the Department of Animal Husbandry; Dairying and Fisheries; the Department of Agriculture Cooperation and Farmers Welfare; and the Department of Agricultural Research and Education. Including more diverse funding sources and stakeholders will help address human-wildlife conflict in a more holistic way. The need for cooperation between different institutional sectors is crucial to scale up best practices across the landscape, and to better integrate policies so that they work together rather than against each other, as is sadly the case in many circumstances. Engaging at this level also requires a specific set of skills that can be taught and fostered.

India should be proud of its many landscapes where people live alongside large wildlife, since human respect and

tolerance for animals are higher here than in most countries elsewhere in the world. Bringing India into the 21st century in a situation where species like elephants, tigers, and leopards still share space with 1.3 billion people is an achievement that the forest department should be proud of. Yet, as the department looks to the future, we must incorporate resources to stay adaptive, pragmatic and progressive, and seek approaches that improve the well-being of people who sacrifice life and livelihood for wildlife. Through infusing the meditation around human-wildlife conflict incidences with greater humanity, acquired through training in public relations, the IFs and other conservation practitioners would be making key steps in shifting the discourses of conflict to ones of coexistence.

REFERENCES

- Agarwala, Meghna et al (2010): "Paying for Wolves in Solapur, India and Wisconsin, USA: Comparing Compensation Rules and Practice to Understand the Goals and Politics of Wolf Conservation," *Biological Conservation*, Vol 143, No 12, pp 2945–55.
- Dickman, Amy J (2010): "Complexities of Conflict: The Importance of Considering Social Factors for Effectively Resolving Human-Wildlife Conflict," *Animal Conservation*, Vol 13, No 5, pp 458–66.
- Karanth, Krithi K et al (2012): "Assessing Patterns of Human-Wildlife Conflicts and Compensation around a Central Indian Protected Area," *PLOS ONE*, Vol 7, No 12, pp e50433.
- Kermeliotis, T (2013): "Boy Scares Off Lions with Flashy Invention," *CNN*, 26 February, <http://www.cnn.com/2013/02/26/tech/richard-turrere-lion-lights/index.html>.
- Madden, Francine (2004): "Creating Coexistence between Humans and Wildlife: Global Perspectives on Local Efforts to Address Human-Wildlife Conflict," *Human Dimensions of Wildlife*, Vol 9, No 4, pp 247–57.
- Miller, Jennifer R B, Kelly J Stoner et al (2016): "Effectiveness of Contemporary Techniques for Reducing Livestock Depredations by Large Carnivores," *Wildlife Society Bulletin*, Vol 40, No 4, pp 806–15.
- Miller, Jennifer R B, Yadvendradev V Jhala et al (2016): "Human Perceptions Mirror Realities of Carnivore Attack Risk for Livestock: Implications for Mitigating Human-Carnivore Conflict," *PLOS ONE*, Vol 11, No 9, pp e0162685.
- Ogra, Monica and Ruchi Badola (2008): "Compensating Human-Wildlife Conflict in Protected Area Communities: Ground-level Perspectives from Uttarakhand, India," *Human Ecology*, Vol 36, No 5, pp 717–29.
- Redpath, Steve M et al (2012): "Understanding and Managing Conservation Conflicts," *Trends in Ecology & Evolution*, Vol 28, No 2, pp 100–09.
- Zabel, Astrid and Stefanie Engel (2010): "Performance Payments: A New Strategy to Conserve Large Carnivores in the Tropics?" *Ecological Economics*, Vol 70, No 2, pp 405–12.