Turning the Page in Wildlife Science
Conservation Biology and Bureaucracy

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A majority of Indian wildlife scientists are unable to come together to create a united front to add a much-needed conservation focus to policymaking. In an age when we are trying to balance development with protection of forest areas, wildlife biologists need to actively respond to and engage with situations where the wildlife and conservation angles need to be highlighted. They should make the effort to translate science into policy in conjunction with the bureaucracy and actively work towards creating a much-needed platform for collaboration.

A recent article by the authors in this journal ("Turning the Page in Forest Governance: Science and Bureaucracy", EPW, 10 December 2011) highlighted the need for the forest bureaucracy and wildlife scientists to liaise actively to ensure better forest governance, pointing out how the forest bureaucracy often made it difficult for independent scientists to engage meaningfully with them. To highlight the other side of the story, as it were, we would like to present how the reverse is just as true – many in the wildlife science community in India are resistant to working productively with the forest bureaucracy as peers, preferring to remain aloof from real world conservation issues, and unwilling to engage in constructive dialogue for change. Strangely, however, at the same time, almost every wildlife scientist has an opinion on the practice of conservation (whether by the forest department or other scientists), that they presume stems from their objectivity as practitioners of science. We argue that wildlife scientists need to realise that science is but one cog in the wheel of conservation practice. Scientists need to make the effort to translate science into policy in conjunction with the bureaucracy, and actively work towards creating that much-needed platform for collaboration.

The Insular World of Scientists
Scientists often live in an insular world within the boundaries of their academic interests, and out of touch with the on-ground issues facing forest governance. It is true that a scientist has enough worries about the day-to-day grind of doing research – thinking of a good study, collecting quality data, publishing the results, and obtaining funding for her/his work. The contingent responsibilities of an academic career sometimes make it onerous for a scientist to pursue the long trail towards systemic action. Sometimes, it may not even be possible to do so, as the study may not have an applied component. However, a redefining of the boundary encompassing wildlife science and action in India is now essential. This is particularly important in a crisis discipline such as conservation biology, where basic and applied sciences can be equally valuable, and scientists who study the field must be willing to engage with a complexity of issues that influence their field of study (Ludwig et al 2001).

Many scientists are often unaware of the complexity of a forest manager’s task. In addition to his assigned duties, the forest manager often has to deal with a multitude of real world, non-abstract problems of social and political dimensions. These might include, among other things, working with resident communities hostile to management decisions, dealing with threats from local militant outfits, pressures from political bigwigs, and inter- and intra-departmental politics that impede their regular duties. Even with so much on their plate, a large number of forest officers are genuinely interested in using science and research to guide management, and actively seek inputs from scientists. It is for the scientist then to go that extra mile with an interested officer, and apprise forest managers of the nature and implications of it, when the department needs it. Sometimes, it may need scientists to engage in a formal manner with bodies like the Forest Advisory Committee or the National Board for Wildlife, to nuance the debate on a conservation issue.

A vast majority of wildlife scientists are, however, unwilling to take on political, bureaucratic, or corporate interests even when they pose an obvious detriment to
wildlife. Scientists especially shy away from bureaucratic battles that might jeopardise obtaining research permits from the forest department. Consequently, a majority of Indian wildlife scientists are unable to come together to create a united front to add a much-needed conservation focus to policymaking. In this age when we are trying to balance development with protection of forest areas, wildlife biologists need to actively respond to and engage with situations that need the wildlife and conservation angle to be highlighted. However, making this change will involve dealing with challenges that will force scientists to leave their comfort zones and wear different hats, accept different viewpoints, and speak in a language other than academia (Ludwig et al 2001).

**Fostering Engagements**

A first exercise in plurality should be a more inclusive approach within the larger community of science itself. The acknowledgement of barriers between scientific disciplines is often recognised when wildlife scientists say “I am not a social scientist/economist/political scientist”. Undoubtedly, any single person rarely has the combined skills, inclination, or the time to comprehend and master these multiple disciplines. It is, however, essential to respect the components of these fields that influence conservation issues, and integrate these disciplines to find multidimensional solutions to wildlife conservation (Mascia et al 2003). The lack of dialogue between disciplines is best illustrated in the past two decades, where the world’s top five political science journals have published only one article on biodiversity conservation out of more than 2,000 articles (Agrawal and Ostrom 2006).

As a next and very crucial step, scientists need to make their research more accessible to policymakers. Like any specialty, conservation science has its fair share of jargon that by definition is meant only for other scientists to understand, and this needs to be “translated into English” to inculcate an interest in the general public and make it more accessible to policymakers or forest manager. For instance, it is very true that for a successful conservation programme, information on species biology is important. But no amount of information on species biology is useful if this information does not inform policy when needed. To do this, it may often be up to the scientists to come forth and present their work in a simple and lucid manner to those in decision-making circles. Sometimes, it might not be enough for scientists to simply make their own research accessible. Very often, wildlife managers need specific information that are not relevant to a scientists’ core interests, but which scientists can provide without much effort. For instance, the impact of roads on amphibians is not the primary focus of an ornithologist, who can nonetheless synthesise the literature on the issue and highlight the relevant scientific aspects to inform a park manager on the impacts of a proposed road.

Most important, biologists must make the leap from simply offering analysis to actively ensuring that their inference is incorporated into policy, and persevere for a change in conservation decision-making. With few exceptions, many wildlife scientists do not take those simple extra steps, such as translating reports submitted to the forest department into vernacular languages, or placing information in relevant context through updates and presentations. The incremental step from a research paper to a policy document is missing, in large part due to the reluctance of scientists to engage with peers, non-scientists, and experts outside the sphere of conservation science. It is time to discard the eloquent discourse as to why cross-disciplinary talk would not work – in fact, it is the only thing that is likely to work, and the sooner we get moving, the better for all.

**The Recalcitrant Biologist**

For a policymaker, dealing with scientists is generally not easy. Their attitude towards bureaucracy is often unreasonable or condescending, and towards peers, dogmatic and adversarial. “If you put five scientists together you get 10 different opinions and no consensus”. The result often is that scientists are unable to present concrete, usable information to aid conservation decisions. Scientists tend to believe that their own beliefs and actions are drawn from an empirical repertoire of understanding, while those of peers are contingent on personal shortcomings, biased inclinations, and self-interest (Burchell 2007). The problem of the “empirical self and contingent others” is pronounced in conservation biology, where scientists are expected to maintain their objectivity through data-driven arguments, and at the same time, advocate a set of biodiversity values. The completion of a data-oriented study many times spirals out of context into philosophical rhetoric. For instance, most advocacy (by scientists, no less) on sustainability in extraction of non-timber forest produce in India scales up from individual case studies, glossing over pan-Indian reviews calling for more information on key ecological processes to model sustainability better (Shahabuddin and Prasad 2004). As a result, use regimes are advocated not based on a comprehensive evaluation of data but on personal philosophies. Sophistry gains over science, even for scientists.

**Along with Government, Not Instead of It**

Wildlife scientists can and should play a large role in defining the contours of science and conservation, and more importantly, placing it in the context of other larger societal goals (Lele 2011). One could argue that India today lacks a constituency of wildlife science and conservation due to the “tunnel-vision” approach of placing the goals of science or conservation in a vacuum. It is imperative to get social scientists, economists and non-scientists alike to think of wildlife science and conservation as desirable goals. Consequently, scientists may have to engage with the government directly or through civil society organisations.

Civil society and scientists, like we pointed out in Krishnadas et al (2011), are essential to add a democratic balance to state governance. Scientists and conservationists, nonetheless, underestimate the importance of state mechanisms, dismissing good forest officials or leaders of being one-man shows, when many research or conservation programmes are also contingent on a variety
of externalities. No matter how well-intentioned and scientifically equipped, civil society cannot provide a long-term replacement for the overarching system of government machinery in the country. Non-governmental organisations (NGOs) often rely on funding from competitive grants, for limited periods, for specific projects. This means that long-term institution-building at a countrywide scale by NGOs is a near impossibility, unless they channelise their efforts through existing systems to maximise impact. In fact, sometimes NGOs find themselves pulling out of conservation efforts (such as providing alternative livelihoods or sometimes even withdrawing life-saving drugs) when funding runs out or when the going gets tough, highlighting the limitations of civil society. Invariably, governmental agencies are dismissed as dysfunctional institutions when, disturbingly, not enough institution-building happens within the scientific community. Personal biases and entrenched viewpoints preclude collaboration and data sharing, often hampering the next generation of independent thought and practice.

Notwithstanding a flourishing NGO sector,¹ the focus should be on strengthening pre-existing governmental mechanisms, doubtless the most important challenge for biodiversity conservation over the next century (Agrawal and Ostrom 2006). A diversity of measures for adaptive governance will lead to sustainable long-term conservation strategies. This will require strengthening, organising and devising rules, and monitoring government units at different scales. The best way forward is to incorporate independent conservation efforts within the framework of governance to provide incremental changes that can make permanent improvements in the system. Scientists and civil society can be vital catalysts, but not the process itself.

Scientists need to understand the difference between pointless intransigence and constructive criticism, and move from accusations to fruitful debate – both within themselves and with the government. There are notable examples of wildlife scientists and civil society engaging with policy matters, rather than simply stopping at providing information and reports. The issue of human-leopard conflict, leading to loss of human lives and killing of leopards, is a serious matter across India. A scientific study found that translocation of leopards, a routine conflict mitigation measure used by the forest department in Maharashtra, increased the frequency of leopard attacks (Athreya et al 2010). The state forest department trapped 276 leopards during 2001-05, but this did not arrest attacks. With scientists working with the department, and strong leadership within the forest department, a different policy was followed based on scientific understanding. The Maharashtra state forest department issued guidelines which were based on the findings from the scientific study on leopard translocation. Only 38 leopards were trapped during 2005-09. The implementation of the guidelines decreased the number of attacks on humans from 218 (between the years 2000-05) to 34 (2006-10) and the number of human deaths from 66 to six (Athreya et al 2010). Several other states such as Hima-chal Pradesh and Jammu and Kashmir followed suit with similar guidelines. The Ministry of Environment and Forests (MoEF) jointly hosted a workshop with the Wildlife Trust of India and International Fund for Animal Welfare in 2007, where forest department officials, NGOs, scientists and veterinarians discussed the best practices to deal with human-leopard conflict. Working with several scientists and institutions, the MoEF created a comprehensive set of national guidelines (April 2011), to best deal with human-leopard conflict (Anon 2011). A complex issue was thus dealt with multisectoral cooperation at the local and national level.

Moving On

If one traces the evolution of wildlife science in India and the attitudes of many wildlife scientists today, it has followed a trajectory similar to the history of science in general. From Socrates and Plato’s ideas of ignorance, to the scientific revolution which injected a triumphant faith of scientific pretension (Ravetz 1993), our lack of a systematic understanding of our natural world changed with the advent of wildlife science in the early 1960s. Forty years later, there is widespread arrogance and egotism among academics who are unwilling to work together or with the system, and we require a renewal of humility, modesty and plain common sense. Humility and modesty to acknowledge that expert knowledge is not privileged, and that public and policymakers should be part of a greater sphere of engagement between science and society. Common sense to acknowledge that infighting does not solve conservation problems, only exacerbates them.

India’s conservation legacy is going to be judged by the degree of unity that conservationists and scientists attain to fight agendas that are bigger than the fractured philosophies of personal viewpoints and academic debate. We must learn to tame the beast inside, before we move on to saving wildlife.

¹ There are around four NGOs per 1,000 urban dwellers and 2.3 NGOs per 1,000 rural dwellers – http://www.downtoearth.org.in/node/33712

REFERENCES


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