

PITTING PEOPLE
AGAINST NATURE

Prof. Abhee Dutt Mazumder Memorial Lecture, 7th year

PITTING PEOPLE AGAINST NATURE

By
Prof. MADHAV GADGIL

Forum against monopolistic aggression (FAMA)

Pitting people Against Nature.

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Foreword

A series of untoward incidents happened in the year that passed by due to the ill-management of the pandemic by the state, death of the migrant labourers being the most tragic one. Last year, due to pandemic-related restrictions, we could not hold our annual memorial lecture held on 26th July each year, this being the foundation day of Forum against Monopolistic Aggression. Since situation did not improve this year, we decided to continue with our annual memorial lecture in the online mode. The renowned ecologist and the founder of the Centre for the Ecological Sciences, Professor Madhav Gadgil, consented to deliver this year's memorial lecture entitled 'Pitting People against Nature'. On the foundation day, Maroona Murmu, on behalf of the conveners of FAMA, introduced FAMA and the theme of this year's lecture. Todi Dutt-Mazumder, the youngest member of FAMA, talked about the one of the founding members, Professor Abhee Dutt-Mazumder and his untimely demise which the annual lecture after him. Prohor.in hosted the event which huge circulation of the lecture with a reach of almost 8500 views. While Amitava Mitra skillfully wove the connecting thread of the programme, Asiskusum Ghosh rendered the vote of thanks. Special thanks are due to friends of Fama Mainak Maity, Anitesh Chakrabarty, Kaushik Mukerjee for their wholehearted

support to make this programme a success.

Amidst the socio-economic gloom that we have been deviously plunged into, it remains a great pleasure for us to be able to publish this extremely popular lecture. Professor Gadgil has been kind enough not to claim the royalty for the published lecture.

We hope to meet the well-wishers of FAMA in the next memorial lecture in person. Till then,

Revolutionary Salute,
Conveners of FAMA
Eshita, Jyotirmoy and Maroona

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Ecological prudence

I am delighted to be here with you and to share my ideas about one form of monopolistic aggression that has tragic consequences for the common people of India. This is an aggression promoted by interests of international tourism. The aggression has further strengthened the hands of the Forest Department (FD), an agency created by the British rulers to help drain India's resources by taking over common property resources of India's village communities. Indian society traditionally viewed itself as being a part of a community of beings, not just including other humans, but animals and plants, hills and rivers as well. This worldview was rooted in an appreciation of the need to sustain the ecosystem services that the other members of the community provided. Its manifestations included practices such as protection of the breeding colonies of waterbirds like egrets, herons, storks, and pelicans in places like Keoladeo Ghana in Bharatpur, Rajasthan, Vedanthangal near Chennai in Tamilnadu and Kokre Bellur in Mysore district of Karnataka. The breeding waterbirds are an easy prey but were strictly protected during the breeding season ensuring that the colonial breeding, offering valuable fertilizer for the farmers, will continue year after year. But the same birds were happily hunted outside the breeding season. This is a neat example of what ecologists term prudence and natural resource managers sustainable utilization. Many such

practices prevailed over India for several centuries ensuring that India remained an ocean of trees teeming with wildlife till the community management was destroyed under British colonial exploitation.

Social strife

Although Indian people may have been at peace with nature, they were by no means at peace with each other. There was tremendous strife within the society as illustrated by the burning of the Khandava forest where modern Delhi is located today. In this famous incident from Mahabharata, Krishna and Arjuna patrolled around the periphery of the forest killing every tribal Naga along with other animals trying to escape the flames. This was an example of how India's iniquitous, hierarchical society was constituted. It was Gautam Buddha, a rationalist and a humanist who opposed all such inequities including monopoly over knowledge of the upper classes. Regretfully, his influence over the Indian society did not last for long and the Indian society relapsed into an iniquitous, divided society full of strife and monopolies, including over knowledge. Knowledge and reason must underpin all our decisions, but these are not sufficient by themselves. Ultimately it is values that decide our actions. As Indian citizens all of us ought to accept the fundamental values of equality, fraternity and social justice enshrined in our progressive Constitution. But these values are negated by the two philosophies that dominate the discourse relating to nature conservation in India today. First of these is a 'wildlife first' philosophy, advocating that we protect

big mammals and birds at the cost of all else, including the welfare of India's masses. The other philosophy is that we must promote 'development' equated with GDP growth, at all costs, costs that are inevitably imposed on India's natural capital and on the weaker sections of our society. Both these philosophies end up pitting people against nature, and pitting people against people. Both must be rejected, and we must instead embrace the ecological prudence of the people at the ground level, valuing and protecting nature for its ecosystem services and strive for creating a more equitable and socially just society.

1972 Stockholm Conference

Protection of environment came to the centre-stage of global discourse at the 1972 Stockholm World Conference. Our Prime Minister, Mrs. Indira Gandhi gave an impassioned speech at that Conference saying that poverty is the greatest polluter and India's development strategy will eliminate poverty and thereby take care of the environment. What then were the pertinent actions on the ground by the Indian Government in 1972? They were the promulgation of the Wildlife Protection Act (WLPA) and launch of the Project Tiger. Both these did not reduce but exacerbated the poverty of our common people. Notably 1972 was also the year when the Chipko Movement was launched in Garhwal Himalayas. Chipko demanded that the tree growth of Himalayas should not be destroyed for the sake of commercial interests. The trees must instead be spared to support the livelihoods of the people and to

prevent landslides and floods. The forests should continue to provide water and soil for the nation and environmental security and livelihoods for the people.

British experience

To appreciate the stand of the Chipko activists and the actions of the Government of India trashing their demands one must look at the antecedents of forest and wildlife management in India. Britain had lost most of its forests and the bulk of its wildlife many centuries before it conquered India. The process began with William the Conqueror's rein in 1066. William the Conqueror, who loved to hunt, established and enforced a system of forest law. This operated outside the common law and served to protect game animals and their forest habitat from hunting by the common people of England. Henceforth hunting of game in royal forests by commoners, now labelled poaching, was punished by death by hanging. In 1086, he parcelled all of the country's lands to various feudal lords. These landowners followed the lead of William the Conqueror appropriating common lands, enclosing them and thereby depriving commoners of their ancient rights of cultivation of community lands, of grazing their animals and of hunting. Britain thus created a regime that recognized only private holdings treating any community control as illegitimate. The strong peasant protests against this injustice over the next two centuries were forcibly suppressed. The result was disastrous, Britain lost most its forests and wildlife by 14th century.

East India Company

The British had seen the robust teak ships of Maratha navy and wanted this timber to substitute for the exhausted oak of their own land. They defeated Tipu Sultan in 1799 and brought large tracts of southern peninsula under their own control. They decided to emulate Tipu's claim as the king over all sandal within his domain. The British adopted a two-pronged strategy to access India's forest resources; state take-over of community lands and claim over all teak trees as the property of British East India Company. At that time, a network of sacred groves clothed the country. This was destroyed as were the teak plantations of Maratha navy. But when the East India Company began cutting teak trees from farmers' lands, there was such an outcry that it was forced to close its forestry establishment in 1825. The next three decades were a time of reckless felling of forests by the East India Company all over the country.

Systematizing forest management

A major challenge before the British after the war of 1857 was to tackle the discontent stemming from forest destruction by policies of East India Company. So, they resolved to institute a systematic forest management regime. The question was: where will the understanding needed for this purpose come from? The British had deforested their own lands; there was no tradition of forest management in their own country. They perforce turned to Europe, parts of which were still forested. There was another major difference. In many parts of Europe community ownership still prevailed. A notable

example of this is Switzerland. This hilly country's forest cover had been largely decimated by 1860's. But when landslides began to devastate the land, people awakened, and began a concerted effort to grow back forest. Today Switzerland has an excellent forest cover, all of it owned by local communities; none of it by a state forest department.

Banning shifting cultivation

Since no Britisher could be found, the British invited Dietrich Brandis, a German botanist to head the newly set up forestry establishment. A major question confronting Brandis was the extent to which village communities should continue to manage forests, and how much should be taken over as state property. Brandis favoured a major role for village communities.¹ Many other government officials also supported him. Thus, the Madras Revenue Department dubbed state takeover of forests as a "confiscation, not conservation". Shifting cultivation was another bone of contention. At that juncture, it was widely prevalent, especially in hilly and malarial tracts. People cultivated millets for 2-3 years after clearing much of the tree growth while leaving economically important trees intact and burning the brushwood. They then moved to another patch, leaving the land fallow for 15-20 years to grow back the tree cover. Many British officials opined that this provided good livelihood for poor peasants. Besides, the peasants never completely cleared the forest, leaving mango, mahua, myrobolan and other such valuable trees standing. But the British tea-coffee estate owners

opposed continuation of shifting cultivation. They said that unless shifting cultivation is forcibly stopped, they will never get any labour for their estates. These estate owners wanted labour that would be made to work pretty much like slaves; after all in 1860 their kith and kin in North America were prospering by ruthlessly exploiting huge armies of black slaves on cotton plantations. Overall, the economic interests of the British lay in rendering people resourceless, and dedicating forest tracts to grow timber for their military and construction needs. So, they outlawed shifting cultivation, as well as community ownership and, overruling Brandis, took over all community land as state propertyⁱⁱ.

Bombay Natural History Society

E P Gee and R C Morris, the former a tea planter from Assam and the latter a coffee planter from South India were two very influential members of the Bombay Natural History Society and close friends of Salim Ali who played a prominent role in shaping the forest and wildlife management policies in independent India. Both were first-rate naturalists whose writings I had read with much interest as a schoolboy in the Journal of Bombay Natural History Society. In 1975 I visited the B.R.T. hills in Mysore district of Karnataka for a glimpse of the famous Doddasampige, *Michelia champaca*, a grand old 118 ft tall tree sacred to tribal solligas on one its peaks. Salim Ali's cousin Zafar Futehally arranged for me to stay in the Guest House of the coffee estate owned earlier by Morris. Since the new Indian manager had absolutely no interest in the beauty and the wildlife of

the hills, I began chatting with the old Mukadam (supervisor) who had been working for the Morris family for many years before they sold off the estate to return to England. He told me that he very much missed those grand old times of British rule when he could stand with a whip in his hand and get the labour to work hard as they should. Now that the whip was gone, he had to exert far more to extract work from the labourers. I was momentarily shocked but not really surprised. I had just been reading Raja Rao's novel *Kanthapura* that is a vivid but apparently quite realistic description of life on a Tea estate on the Western Ghats during the British times and the horrible treatment meted out to the estate labourers. Later I met Paul Harris Daniel, author of an English historical novel "Red Tea". He was a medical doctor and had worked in a series of Assamese tea plantations as chief medical officer from 1941–1965. During that time, he had interviewed workers, obtaining signed statements, developing material which he used to write the novel. Though a work of fiction Red Tea was written with an "explicit documentary purpose". Mr Daniel confirmed that my understanding of the pitiable condition of labour and the behaviour of the European estate owners such as R.C. Morris and E. P. Gee, the British managers and the Indian supervisors very much reflected reality.ⁱⁱⁱ That such treatment continues to this day became apparent during the tragedies of the Puthumala landslide of 2019 and Pettimudi landslide of 2020 when large numbers of tea estate labourers forced to live in miserable huts at the bottom of gorge lost their lives.

Van Panchayats

Brandis, upset at being overridden through influences such as those of these tea-coffee estate owners, offered to resign. To placate him, the British agreed to provide for declaring Reserve Forests as Village Forests and handing them over to local communities for management. This provision was subsequently incorporated in the Forest Act of 1927 under Chapter 3, section 28, but none were constituted till much later in 1930s as Van Panchayats of Garhwal and Kumaon Himalayas. These were exceedingly well-managed; Dr Somanathan of Indian Statistical Institute, a competent statistician conducted a careful field study of these Van Panchayats and reported in 2008 that their community-based management costs an order of magnitude less per unit area and does no worse, and possibly better, at forest conservation than state management.^{iv}

Overexploiting Indian Forests

Brandis with his sensitivity and empathy for the common people was an exception. After he left, the Foresters blotted out all trace of his statements, and of the reality on the ground and started insisting that the villagers had been destroying India's forests and it was the duty of the Foresters to keep them out to conserve the forests. The Forest Department claimed to be implementing sustainable management of forest resources on a scientific basis. In fact, the forest resources were continually depleted in manifold ways, to provide timber as sleepers for construction of the Railway Lines, to burn as a fuel to drive Railway engines, to set up British

cantonments and British-owned tea and coffee estates, to build teak ships for the British Navy, but all this depletion was never brought out in the open in absence of proper documentation and by shutting out all public scrutiny. All along the foresters were misusing their regulatory policing powers with impunity to harass the forest and forest fringe dwellers and extort bribes and other favours from them. At the same time, they were favouring the rich and powerful such as the British tea and coffee estate owners, Railway companies and somewhat later forest-based industries such as paper and rayon mills.

Salim Ali

Salim Ali, a key figure in forging forest and wildlife management policies in independent India, was a remarkable man. He was a friend of my father and I first met him at the age of 14. Charmed by his knowledge, his enthusiasm, his wit, I decided to become a field ecologist like him. My father had been a member of the Bombay Natural History Society since early 1930's and he gifted me a Life Membership on my 21st birthday in 1963. So, I spent a lot of time with Salim Ali at the Bombay Natural History Society (BNHS) and on many field trips over 3 decades from 1956 to 1986 when he passed away at the age of 90 years. I also had the privilege of jointly publishing with him a paper on the communal roosting habits of birds. He once told me that there have been many man-eating tigers, but he was among the few tiger-eating men. He and his good friend and collaborator Dillon Ripley had shot and eaten tiger steak in Khasi hills.

Shikar and the study of birds in the field were Salim Ali's great passions and he kept meticulous observations on the birds in his diary from a young age. It was a sparrow shot with his airgun when he was 10 that triggered his interest in birds, for it was yellow-throated and not a normal house sparrow. He took it to BNHS established in 1883 primarily as a society of British naturalists, mostly Civil Servants or Tea and coffee estate owners. Its Curators were also all British till 1947. These were the people that influenced him from his first contact with BNHS as a 10-year-old boy in 1906. BNHS considered the Royal Society for Preservation of Birds (RSPB) as its model. Its founder-secretary was W H Hudson who had hunted native Amerindian people like so many wild animals in Argentina. Hudson's RSPB, a society of imperialists for imperialists by imperialists has served as the model for the elitist BNHS.

At the age of 32 Salim Ali went to Germany to formally study ornithology under Professor Erwin Stresemann, world's leading ornithologist at the time. Returning he began publishing scholarly articles in the BNHS journal. The first two of these dealt with Mughal Emperors as naturalists and sportsmen alias shikaris, indicative of his love for shikar and for careful observations of wild animals under natural conditions^v. Indian Princes were all fond of shikar and interested in the birds and animals they hunted and Salim Ali undertook systematic bird surveys in the princely states of Mysore, Cochin, Travancore, Hyderabad, Gwalior, Indore and Bhopal with the sponsorship of their rulers. Most of these surveys were undertaken in collaboration

with Hugh Whistler, an Indian Police Service officer.^{vi} Salim Ali had little interest in the dry study of bird taxonomy, and entered into a collaboration with S Dillon Ripley, head of the Smithsonian Institution in Washington, DC.^{vii} Although Salim Ali refused to acknowledge the possibility, now unclassified papers reveal that Ripley was heading the American spying effort in Southeast Asia during the Second World War. Even though Ripley claimed to have discontinued his association with the American intelligence agency after the War, I personally encountered clear evidence that Smithsonian Institution's Research Station in Panama was engaged in biological warfare research in 1967 at the height of the Vietnam war. US was guilty of large-scale destruction of the biodiverse forests of Vietnam by employing biological and chemical warfare agents, apart from killing many innocent women and children in massacres like that at MyLai in this 20-year war, and Smithsonian's research in the tropics must have contributed to such atrocities in the Vietnam war. I attended with interest a lecture Dillon Ripley delivered in Bengaluru around 1980. I was quite startled by his openly expressed contempt for Indians and wondered how this aspect of his personality seemed not to bother Salim Ali in the least.

Maharajas

Salim Ali had undertaken bird surveys in a number of Indian states sponsored by their Maharajas and was on friendly terms with them. The reputation of the Maharajas was that they cared only to please their British

masters, enjoy their own wealth and did not care for the commoners at all, often mistreating them. Of course, there were a few honorable exceptions like Ayilyom Thirunal Gowri Lakshmi Bayi of Travancore who worked towards providing good health care for her subjects, Maharaja Sayaji Rao Gaekwar of Baroda and Shahu Maharaj of Kolhapur who in many ways strove for the welfare of their subjects. However, the rule was that the Maharajas were totally cut off from the common people of their states. Salim Ali's earliest bird survey was in Mysore state and the reigning Maharaja, Jayachamarajendra Wadiyar, was well known for his marksmanship and was highly sought-after by his subjects whenever a rogue elephant or a man-eating tiger attacked their immediate surroundings. There are many wildlife trophies of animals hunted by him in the Palace collections. Salim Ali, himself fond of Shikar, became a good friend of him.

As this suggests my Guru Salim Ali, though a great naturalist and a most charming personality lived in the world of Europeans and Indian aristocracy and was completely cut off from the common people of India. In a way, he was himself a Maharaja. Salim Ali belonged to the prestigious and wealthy family of Badruddin Tyabji, one of the founders and third President of Indian National Congress. Because of his own superlative contribution to advancing knowledge of Indian birds and the popular "Book of Indian Birds" he was greatly admired by bird enthusiasts like my father and myself among the educated urbanites. Jawaharlal Nehru and Indira Gandhi, like my father, educated at Cambridge

and Oxford were both fond of bird watching, and admired him and valued his advice on matters of nature conservation. That he was close to our Prime Ministers was well-known, so the entire bureaucracy treated him like a Maharaja as I witnessed on my many field trips to forest areas in his company. Although he was sympathetic to the cause of Indian independence, he certainly did not share Gandhi's vision of India as a country of village republics. Given this background his advice on nature conservation was biased, rooted in his strong prejudice that it was the common people of the country who were primarily responsible for destruction of nature.

Indian Board for Wildlife

The policies for wildlife protection in independent India began to be shaped with the constitution of Indian Board for Wildlife in 1952. It was chaired by the Mysore Maharajah with Dharam Kumar Sinh, from the royal family of Bhavnagar as the vice-chair. The members included Salim Ali, and two tea/coffee planters, R C Morris and E P Gee. E P Gee played a leading role in mooting the idea of establishing Protected Areas and passage of a Wildlife Protection Act two decades later^{viii}. In 1972 the Act was drafted by M K Ranjit Singh from the Royal family of Wankaner. The entire effort was thus being driven firstly by Maharajas who tended to have little sympathy for their subjects and were used to paying homage to their British rulers and secondly by British tea and coffee estate owners who treated the Indian labour on their estates as slaves.

Blunder of Bharatupur

The Bharatpur wetland, famous for the large heronries in the rainy season and the enormous flocks of migratory birds visiting in winter, was one of the first wildlife sanctuaries to be created after independence at the instance of Salim Ali in the 1950s. He had worked for years at Bharatpur, banding thousands of migratory birds. I had the privilege of accompanying him on several of these trips. At the end of the day, we would go for long walks and would see large herds of buffaloes walking back to their homes. Salim Ali would gaze at them with great disfavor and would say, Madhav, once these wretched buffaloes are banned the wetlands would be safe for birds. I knew he had never thought about or studied the functioning of the Bharatpur ecosystem and his remarks were grounded in sheer prejudice, but I kept quiet. After all, Bharatpur had been subject to grazing by buffaloes and other uses such as collection of khus grass by local people for centuries and had remained a biodiversity rich habitat. It was here that Lord Linlithgow, British Viceroy of India had shot 4273 birds on a single day, 12th November 1938 at the height of the massacre of India's wildlife by the British while they ruled India.

Dr Salim Ali's recommendations supported by those of the similarly prejudiced International Crane Foundation led to the declaration of the locality as a National Park in 1982. The rigid regulations applicable to a National Park called for total cessation of livelihood activities of local people, so buffalo grazing was banned without any alternatives being offered. There were

protests; seven people were killed in the firing that followed, but the ban was enforced. This intervention led to a totally unexpected outcome. It turned out that buffalos were keeping under check a water loving grass *Paspalum distichum*. When grazing stopped this grass along with water hyacinth grew unchecked rendering the wetland a far worse habitat for waterfowl, the prime objective of the National Park management. The numbers of visiting Siberian cranes have also been declining. Residents of the village Aghapur adjoining the National Park have an intriguing suggestion in this regard. They believe that Siberian cranes earlier had better access to underground corms and tubers, their major food, because the soil used to be loosened while digging for khus roots. Since this collection was stopped on declaration of National Park, the soil has been compacted reducing their access to this food. This is a plausible hypothesis worth exploring further; however, it remains untested since the National Park Authorities have no interest in science. BNHS studied these adverse consequences and submitted a report to US Fish & Wildlife Service but never published this vital information in any scientific journal, as was clearly their responsibility.^{ix}

Wildlife Protection Act (WLPA)

WLPA, promoted by Salim Ali, his British tea/coffee estate owning friends and Maharajas has brought the whole of India in Forest Department's tyrannical grip.^x The hunting that this act criminalizes is a part and parcel of humanity's heritage. Humans emerged 300,000 years

ago as group hunters on savannas of East Africa and hunted meat has been an important source of nutrition for humans over most of our evolutionary history and right up till present times in settings as different as Africans hunting for bushmeat and Swedes and Norwegians hunting moose. If not for meat, hunting for pleasure continues throughout the world except in modern day India. Individuals strive to rise in social hierarchy in all group-living mammals including our own species. Courage displayed during the hunt and hunting skills are valued by group members and facilitate a person's rise in social hierarchy. Pleasure in hunting would help a person acquire superior hunting skills and courage. Hence humans have evolved to experience hunting as a pleasurable experience. Hunting was being widely practiced in India when I was a schoolboy in 1950s and knew many people who boasted of their hunting exploits with great pride and enjoyment. To support their claims of being courageous and skilful hunters they displayed trophies of the hunt and their photographs standing next to the hunted animals, generally with a leg planted on its body. One of my uncles who had been a member of the Indian Civil Service had tiger skin rugs scattered around all rooms of his luxurious bungalow and used to enthrall me with tales of the many hunts, especially of panthers and tigers over his lifetime. Salim Ali, too, had a panther skin in his bungalow on Pali Hill in Mumbai. The many maharaja friends of Salim Ali had their own game preserves where hunting was reserved for themselves and their honoured guests. Right up to 1972, many

Maharajas made piles of money inviting European tourists to hunt as their guests in their game preserves.

Destroying livelihoods

Unlike in Britain where feudal lords occupied the whole of the country among themselves, India's princely hunting preserves covered only a fraction of the land and waters of the country, leaving substantial areas open, even close to human habitations, where abundant wildlife roamed and was hunted both by the well-to-do as well as the commoners. The wildlife persisted in great abundance both inside and outside the princely hunting preserves partly because people did not have guns, and partly because of their traditions of prudence. Contemporary ecological theory points to the fact that certain stages in a population are of higher "reproductive value" and therefore more significant for permitting continued population persistence. Pregnant birds and nesting birds, are such stages. For example, the nomadic hunting tribe of Pharsepardhis let loose any pregnant antelope they had trapped, and heronries have been traditionally protected during the breeding season in many parts of India. Many of these professional hunter-gatherer communities often had a mutualistic relationship with the farmers keeping crop raiding pests under control. Bahelias of North India was one such group. The Baheliya community had an honourable role in the 1857 war fighting bravely against the Britishers at the battle of Pindra Village, Satna. After 1857 war the British sought to seek revenge against such communities and beginning in 1871 passed a series of

Criminal Tribes Acts. While justifying the Act a British official J F Stephen said: “When we speak of professional criminals, we...(mean) a tribe whose ancestors were criminals from time immemorial, who are themselves destined by the usage of caste to commit crime, and whose descendants will be offenders against the law, until the whole tribe is exterminated”.^{xi} In 1936, Jawaharlal Nehru denouncing the Act commented, “The monstrous provisions of the Criminal Tribes Act constitute a negation of civil liberty. No tribe [can] be classed as criminal as such and the whole principle [is] out of consonance with all civilised principles.” At the time of independence in 1947, 1.3 crore people in 127 communities faced search and arrest if any member of the group was found outside the prescribed area. The Act was repealed in August 1949 and former “criminal tribes” were denotified in 1952 but determined to keep them subjugated the Government promulgated the Habitual Offenders Act 1952. Today, there are 313 Nomadic Tribes of India, yet the legacy of the past continues to haunt the majority of the people belonging to the erstwhile criminal tribes, with continued alienation and stereotyping by the police, the media, the Forest Department and the urban nature conservationists. Other nomadic entertainer communities like Madaris maintained tamed monkeys whose acts were a great source of entertainment for me and my friends when we were young. The livelihoods of large numbers of such people were callously destroyed by a single stroke of pen with the promulgation of WLPA and no thought has been given to providing them alternative, satisfying

livelihoods. This approach tantamount to deliberately impoverishing them is very similar to that of British planters who in 1860 insisted that shifting cultivation be banned to force people to work on their plantations under conditions close to slavery.

Subjugation

It was not a coincidence that the Wildlife Protection Act, enormously increasing the powers of the Forest bureaucracy was passed just as grass-roots protests against destructive development at the cost of common people in the countryside were mounting as was evident in the case of the Chipko andolan. Before the WLPA the Forest bureaucracy's reach was restricted to the land legally classified as Forest land, some 23% of India's surface; WLPA has extended it to the entire country. WLPA has gone beyond the Criminal Tribes Act in criminalizing much of India's rural and forest-dweller population since a large proportion of them have been for millennia engaged in hunting as a source of sorely needed protein and to protect their crops. India's act is special; Wildlife Protection Acts in other countries focus on management of National Parks and Reserves, the rest of the country being outside the purview of such acts. This is the case in countries as different from each other as Kenya and the United States. In Kenya people widely consume so-called "bushmeat" and the Kenyan Act does not interfere and in the US the citizens hunt outside the Reserves by paying for a hunting permit.

Chipko activists were initially successful in halting tree felling in Garhwal. Dasholi Gram Swarajya Mandal

at Gopeshwar that had been deeply involved in these protests began to organize a series of ecodevelopment camps in the Alakananda valley in Garhwal as a follow up. I participated in one of these in 1981 and witnessed volunteers working shoulder to shoulder with local villagers to undertake soil and water conservation works, to build stone fences and to plant seedlings of a variety of local species of value to people. A comparative assessment of the performance of these people's plantations of early 1980s and plantations in similar terrain by the Forestry establishment was undertaken by the Space Application Center, Ahmedabad using satellite imagery, and by my colleague S. Narendra Prasad and myself through field studies. The people's plantations were far more successful, and we found that the percentage of survival in people's plantations was around 80%, while that in official plantations stood around 20%.

So Chipko and their Van Panchayats became a prime target of forces of destructive development. The Forest Department made it a point to harass leaders of Chipko Movement, including Gaura Devi from Lata-Reni villages. S. Narendra Prasad who had earlier documented the excellent performance of the ecodevelopment camps of Chipko volunteers visited those localities again a decade later and reported that the Forest Department's sabotaging the Van Panchayats had led to degradation of this habitat of goral and other ungulates. A tragic consequence of our allowing all this destruction to go on has been the awful landslide of Chamoli in February 2021 that has caused flooding in the Chamoli district and led to the death of 204 people.

Nature-based tourism

Project Tiger promoted by the World Wildlife Fund led by British aristocracy and spearheaded in India by Bombay Natural History Society was launched in parallel with promulgation of WLPA in 1972. This had its roots in Western commercial interests in nature-based tourism in their ex-colonies to take advantage of the rapid proliferation of photography, television and international air travel. Savannas of East and South Africa and the deciduous forests of India with their wildlife were good possibilities; rain forests of West Africa or of South America were not conducive to viewing wildlife; these were exploited for minerals and destroyed to set up cattle ranches to supply beef to US and Europe. Project Tiger Reserves, supported by the Wildlife Protection Act of 1972, were set up in India on Kenya's Masai Mara Game Reserve model. I had visited Masai mara in 1971 and witnessed the total domination by Europeans of the management to cater to European tourists. In 2019, my friend Vijay Edlabadkar visited Masai Mara through bookings made by an Indian agent working for a European travel agency. His tour was tightly controlled by the travel agency to ensure that he would not have any opportunity to speak to a single local citizen other than the driver. The driver refused to stop even for a minute for my friend to buy a trinket from a street-side vendor. He was kept under house arrest in the hotel where he was staying with the guard refusing to open the gate to walk around the bazar just outside the hotel. Huge tracts of land abutting the Game Reserve were owned by the owner of the European tour agency and the tours

inside the park were totally under their control. The reason why contact with the locals is so assiduously avoided seems to be that the local people are intensely unhappy. Although the Park is named in honour of the Masai people, the ancestral inhabitants of the area, the Masais were forced to move out of their native lands against their wishes to set up the Reserve. There are game ranches in other African countries like the Nazinga Game Ranch in Burkina Faso.^{xii} The game ranch is again owned and operated by Europeans. On these game ranches tourists can hunt elephants and other animals carrying back trophies to Britain, USA and many other countries. Trophy hunters imported over 1.26 million trophies from Canada and Africa of species ranging over snow goose and American black bear to lion, elephant, rhinoceros, impala and wildebeest into the United States in the 10 years from 2005 to 2014. This goes on in Britain as well, though on a smaller scale than in the USA. So, while all hunting of wild birds and mammals is banned throughout India since 1972, no such restraint is observed in the US or Britain, nor, indeed anywhere else in the world.

WLPA provided for National Parks on the model of American National Parks. The history of the American National Parks is most instructive. As the European settlers of North America moved from the east to the west, they destroyed the forests and wiped out the abundant wildlife including millions of bison and billions of passenger pigeon. Once the European conquest of the continent was over and the native people had been pushed into a few reservations, the

consciousness of the beauty of wilderness dawned on the Europeans. These concerns led to the establishment of Yellowstone and other National Parks. Contrary to the claims of Americans Yellowstone was not the world's first National Park, that honour belongs to Bogd Khan Mountain protected by people as a sacred mountain and then by the government of Mongolia in 13th century. India has its own sacred mountains like Shabarimala in Kerala, Gopalswamy Betta in Karnataka, or Badrinath in Himalayas, though no rulers had officially conferred protected status on them.

Tiger as a conservation icon

In a remarkable turn of events the tiger that was till 1972 hunted with much enjoyment and economic profit by rich and powerful suddenly became a conservation icon to be completely protected and to bring in profit for another set of the rich and powerful through nature-based, tiger-centric tourism. An active member of the group who promoted this metamorphosis of the tiger from a hunted animal to an icon to be protected at all costs was Anne Wright, an influential member of the Bombay Natural History Society and a Founder Trustee of World Wildlife Fund (India). Anne belonged to the Wright family that had arrived in Kolkata to serve in the Indian Civil and Indian Police Services but whose members had stayed on in India while retaining their British citizenships. They had all been avid hunters till late 1960's when they began to think of other ways of taking advantage of India's rich wildlife. The Wright family operates two very profitable tourist resorts, near

Kanha and Sundarbans Tiger Reserves. Their resort abutting Kanha is named Kipling camp, after the gifted writer who at the same time was a white supremacist who justified the Jallianwala Bag massacre. Tiger Reserves was the brainchild of the World Wildlife Fund and Prince Philip, the husband of Queen Elizabeth was one of its founders. It is no surprise then that several members of the Wright family have been recognized by the British royal family with titles like the Order of the British Empire.

British shooting preserves

While gullible Indians have been happily dancing to the tunes of our ex-colonial masters and banning hunting throughout the country, Britain itself is full of shooting estates and continues to lose wildlife, especially the birds to this day. Private landowners employ gamekeepers to prevent poaching, to rear and release game birds such as common pheasants and French partridge, manage wild red grouse, and to control predators such as raptors. This predator control has resulted in the extinction of a number of species of birds of prey over the last two centuries, these include: White-tailed eagle, Western marsh harrier, Red kite, Osprey and Northern goshawk. Some 12,300 wild mammals and birds are killed on UK shooting estates every day by the gamekeepers playing a key role in the destruction of wildlife.

Sariska

India's educated urbanites are deeply influenced by the fads set up in the West. Tiger has always fascinated the Westerners as reflected in William Blake's 1794 poem:

“Tyger Tyger, burning bright, In the forests of the night; What immortal hand or eye, Could frame thy fearful symmetry?.” Tiger-centric nature tourism has now become fashionable in the West and India’s well-to-do urbanites have taken to it with fervour. Sariska Tiger Reserve, an erstwhile shooting preserve of the maharaja of Alwar is one of the favourite tourist destinations for Westerners and Indians alike. I visited Sariska in 2005 as a member of the Tiger Task Force constituted by the Prime Minister. This Task Force was set up because no tigers were sighted at Sariska, nor was there any indirect evidence of tiger presence such as pug marks or scats for some years. The Rajasthan Forest Department explained that “the tigers had temporarily migrated outside the reserve and would be back after monsoon season”. Project Tiger Authority backed this assumption. When the Task Force held a meeting at Sariska the other members sat around in the lodge enjoying the liquid hospitality of the forest department, but Sunita Narain, the Task Force Chair, and I took off to chat with the Forest Guards who knew much better what was happening on the ground. The Forest Guards took out their Field Diaries and showed us the entries over the years. They were well aware that tiger numbers were declining rapidly since 1999 and that none were left by 2002.

Year	1998	'99	2000	'01	'02	'03	'04
Official census	24	26	26	26	27	26	17
Staff sightings	17	6	5	3	0	1	0

But their bosses had gone on fudging the numbers and claiming that there were still 27 tigers roaming around Sariska even in 2002. Simultaneously, the Central Bureau of Investigation, India's intelligence agency, was asked to conduct a probe. After a two-month investigation, the agency declared that no tigers were left in the reserve. Poaching was blamed for the disappearance of tigers. But who were the poachers? The CBI met the Task Force off the record and told us that there could not be the slightest doubt that forest officials were involved in poaching. The skinned carcasses of the tigers were left lying around stinking for days. It is impossible that the officials would not have noticed all these carcasses and were undoubtedly involved in the poaching racket. However, we were not allowed to record this observation in our Task Force report. On the ground all that happened was that the bureaucrats rounded up and beat up many people from surrounding villages accusing them of being involved in poaching, and, of course, no bureaucrat was ever held accountable.

Pseudoscience of the conservation cultists

As Salim Ali's blunder at Bharatpur brought out, while he was a great naturalist and a master of the minutiae of bird life, he had little understanding of the science of ecology and of realities of Indian society, economy and polity. Ecology deals with complex systems that vary a great deal over space and time and are profoundly conditioned by their histories. Ecologists recognise that sweeping generalities like all cattle and buffalo grazing

is undesirable are pointless and one must look at each particular case on its own merit. Bharatpur had been subject to grazing over 250 years and had nevertheless maintained huge populations of waterbirds. So it was unlikely that banning grazing would improve it as a waterbird habitat. Even if one advances it as a working hypothesis then the proper scientific approach would have been to try stopping grazing over one portion of the wetland, monitor the consequences and then to extend or reduce the area over which grazing was stopped. None of this was thought of at all and to the best of my knowledge Salim Ali never expressed any regrets at the death of several people as a result of the ill-considered action of stopping grazing over the whole area once for all.

Salim Ali had a most charming personality and has become a cult figure. Followers of his cult, a huge number of city-based nature conservation activists, the Wildlife First walas, spin a cobweb of ecological jargon without any scientific basis. Ours is a vast country with ecosystems ranging from high reaches of Himalayas to coral reefs of Andaman and Lakshadweep. Its rivers range over the great Ganga, Yamuna and Brahmaputra to shorter rivers like Vashishti, Kali, Mandovi and Periyar on the West Coast. A vast proportion of our lands are under cultivation, both under canal and groundwater irrigation and entirely rain-fed. More and more of the country's surface is being built upon with burgeoning concrete jungles of cities and a growing network of roads and highways. This entire system has to be kept in view while thinking of conservation of biodiversity or even

in a more restricted context of conservation of flagship species like tiger, elephant and rhinoceros. Urban conservationists ignore this entire system and only focus on forest ecosystems. But riverine ecosystems are more endangered than forest ecosystems and they too support notable wildlife like gharial and Gangetic dolphin.

Conservation value

From a scientific perspective one should inquire into the relative value for conservation of candidate species like tiger, elephant or gharial. Ranjit Daniels and I have developed a framework for doing so.^{xiii} The conservation value of a species may be based on the 1. level of threat of ecosystem in which it occurs, 2. extent of its geographical distribution, 3. range of its habitat preferences, 4. uniqueness of taxonomic position, and the 5. degree of endangerment. In this framework the crocodylian gharial turns out to be more valuable than both tiger or elephant on every count; [1] gharial occurs in freshwater ecosystems that are much more threatened than the forest/ scrub habitats of tiger and elephant, [2] gharial is confined to a few rivers of Ganga and Brahmaputra basins, whereas both tiger and elephant are spread over much larger area spanning several countries [3] gharial's range of habitat preference is very narrow; tiger can occur in a whole range of wooded habitats, the elephant not only occurs in a wide range of wooded and scrub habitats but happily raids agricultural fields as well [4] gharial has fewer closely related taxa than both tiger and elephant [5] gharial population declined from 10,000 in 1946 to <250 in 2006, whereas

the tiger and elephant populations are much larger and growing. Yet we have an obsession for these two species with much lower conservation value.

Threats to biodiversity

Gharial's decline is attributable to the loss of riverine habitat with dams, barrages, irrigation canals and artificial embankments, changes in the river course due to siltation and sand-mining and high levels of pollution including by heavy metals like lead & cadmium. Indeed, pollution, of air, water and soil and modification of natural habitats are the most potent of threats to biodiversity in India today, far more serious than hunting of species banned under WLPA. Pollution and habitat destruction are both being positively encouraged and impacting the country's environment more and more seriously today. Regretfully our Pollution Control Boards are continually engaged in whitewashing and do not maintain any honest records. To make matters worse the 2020 EIA notification declares even red or most polluting industries to be strategically important and exempts them from public scrutiny.

All over the country natural habitats are being destroyed in many ways. Expansion of agriculture into forested areas is only one relatively insignificant aspect of such modifications. More potent is the building of high-rise buildings for the wealthy, construction of highways and railway lines, airports and ports, quarrying of rocks and mining of sand and limestone to support this construction, and mining for coal and a variety of minerals. Maharashtra's Samruddhi highway is one such

project marching headlong across the state. It does not care if there are hillocks on the way. It just cuts through them destroying forest and wildlife habitats and sources of streams that are the lifelines of the neighbouring villages' agriculture. The wild animals rendered homeless have taken to raiding the villages, hyaenas are attacking cattle and panthers have seriously injured people.

Balance of nature

Another pseudoscientific assertion relates to the balance of nature. Nature has always been in flux; there never has been a balance of nature either on evolutionary or ecological timescales. Life originated four billion years ago; if it had remained in balance from that time onwards there would now be only anaerobic, non-photosynthetic primitive organisms on the bottom of deep sea near the sites of eruption of undersea volcanoes. But life has not remained in balance. Two billion years ago it came out of the sea in moist habitats on land. Somewhat later it colonized the rest of the land and finally air. Life evolved from very simple one-celled organisms to complex fungi, plants and animals. Our own species arose 3 years lakh ago on the savannas of Africa and colonized the Indian subcontinent 65 thousand years ago. Notably there were no Asiatic elephants on the continent at that time; that species arrived on the continent much later. So, if one is to talk of encroachment it is elephants that have encroached on human habitats, not the other way around. On the ecological time scale too, there is continual dynamic change. At CES of IISc we

established a 50-hectare permanent plot during 1988–89 in the deciduous forests of Mudumalai, Tamilnadu. Within this plot 25,929 living woody plants (71 species) above 1 cm DBH (diameter at breast height) were identified, measured, tagged and mapped and their fate has been followed every year right up present times by my colleague Sukumar. This is one of several plots in the international network of large plots to study tropical vegetation dynamics on a long-term basis. The results show that there are continual changes in the composition of the vegetation in all these plots^{XIV}.

What regulates animal numbers?

The pseudoscientific theory of regulation of animal numbers is that there is a balance of nature so that numbers are properly regulated within the forest ecosystems and all problems arise because of human encroachment on forest ecosystems in very recent times. This is seriously flawed because animals do not live in water-tight compartments. It is essential to look at the populations of wildlife species of interest over their entire range and I have worked on this topic since 1969.^{XV} A large fraction of such populations may occur well outside forest habitats, certainly outside wildlife sanctuaries and national parks. This is the case with elephants and wild pigs. The forest department statistics is thoroughly unreliable as was demonstrated at Sariska and even an authority like H S Pabla, formerly Chief Wildlife Warden of Madhya Pradesh states that possibly as many as 60% of the lions may be outside the Gir national park, although one cannot be sure.

How are the number of animals over their entire range regulated? The intrinsic tendency is for these numbers to increase unless checked by factors such as predation, diseases, limitation by resources like food or nesting holes and accidental mortality such as through floods or landslides. Charles Darwin came up with an amusing illustration. He said that numbers of even slow breathing large mammals like elephants will go on increasing unless checked by such factors so that in 750 years these elephants stacked one over the other would reach one sixth of the distance from Earth to the Moon!^{xvi} Obviously factors such as the imaginary balance of nature within the forest ecosystems are not going to be involved in regulating the numbers of our major wildlife species, with much of their population outside the forest areas. Predation has to be the major regulatory factor and all along humans have been the most significant predator of a whole range of wildlife species such as elephants on the Indian subcontinent. As already mentioned, elephants colonized the Indian subcontinent much later than humans and humans began hunting them as soon as they came on the scene. This hunting is depicted in the 10,000-year-old cave paintings of Bhimbetka in Narmada Valley. An anthology of romantic verses composed around 2,000 years ago in the same region called Gathasaptasati describes how a young man must prove his manhood by hunting an elephant before he can hope to acquire a bride. In the swanky club of tea estate owners in Munnar in Kerala legs of tables are made of lower sections of the legs of elephants they had hunted. This predation has suddenly ceased with the

Wildlife Protection Act, barring glaring exceptions like the bandit Veerappan and as a result numbers of all the wildlife species has skyrocketed.

There has been another significant change. A branch of ecology termed optimal foraging theory considers factors relating to food acquisition by animals. Animals tend to feed in such a fashion as to obtain the maximum amount of nutrients while expending as little time and effort as possible and encountering as little risk as possible. Sukumar has shown that even if elephants have the option of obtaining food in forest ecosystems, they invade agricultural areas and forage on crops which provide a much greater amount of nutrients for a given effort. Animals are smart and they quickly learn when new opportunities open up. Given Wildlife Protection Act many wild animals have learnt that they can invade croplands or even human habitations with impunity because people will not resist them. As a result, much greater food has become available to wild animals, further promoting growth in their numbers.

Human Wildlife Conflict

Human-wildlife conflict is endemic in today's India. In March 2021 Mr H S Pabla, former Chief wildlife Warden of Madhya Pradesh and Dr A J T John Singh, the well-known conservation biologist submitted a note to the Government, in which they stated: "Human-wildlife conflict is a humongous problem for conservation of wildlife in India. Nearly a thousand people are killed by wild animals like elephants, leopards, tigers and sloth bears while tens of thousands are injured each year.

Losses of crops and property at the hands of elephants, wild pigs, blue bull, blackbuck, gaur etc. runs into thousands of crores. People are not free to defend themselves against marauding animals as even driving them out of their homes and crop fields needs official permission.”^{xvii} This is a rough and ready estimate of the magnitude of the conflict and as with all of forest and wildlife related data the details are shrouded in a cloak of obfuscation.^{xviii} The only information available on wildlife numbers comes from reports of probably unreliable surveys in some Protected Areas. Shri H S Pabla agrees that a very substantial number of wild animals engaged in conflicts with people live outside the protected areas. For instance, there is no reliable estimate of what proportion of the lion population is outside the boundaries of the PAs but Mahesh Rangarajan estimates the proportion of lions outside Gir National Park at 20% whereas Pabla estimates it at 60%. A perusal of the scholarly literature shows that there are no straightforward studies of human- wildlife conflict in India, instead there are studies talking of attitudes, perceptions, management issues close to Protected Areas.^{xix}

Indeed, using the weapon of Wildlife Protection Act (WLPA), a tyrannical regime has come to prevail all over our country, not just in rural or forested areas but in the heart of Delhi in Chittaranjan Park where monkeys are attacking and biting people. The ban against hunting of the wild pig is the most irrational of all. The International Union for Conservation of Nature (IUCN) maintains careful data on the conservation status of most

of the wild mammals as well as many other animals in the world. They categorize wild pig as being of least concern, and in fact, as increasing in many parts of the world such as forested regions of Europe and Canada. Although no reliable data is available from India, farmers from all over the country report that it is on the increase and is a serious menace, not just in areas adjoining forests, but far away as in the case of Man, a taluka with the lowest rainfall in Maharashtra. As the law now stands a farmer may kill a wild pig destroying his crop after a lot of red tape involving the forest bureaucracy and then take the dead body to the officials who would conduct a panchanama and then burn or in other ways destroy it. With some exceptions such as in Islam the wild pig meat is relished and has served as a valuable protein source the world over, as celebrated by the famous cartoon character Obelisk. National Health Survey data shows that high levels of malnutrition prevail over much of India and to deny people this much needed protein is unjust. It is further unjust because it makes guarding the crops more difficult thereby leading to a decline in agricultural production and in many cases shift to a less desired cropping pattern, or even abandoning cultivation. Regretfully such injustice invites socially undesirable responses in the form of blatant violation of the law.

Wild pig sticking on horseback has been a traditional sport among the royals and jahagirdars in India; Chhatrapati Shahu Maharaj (1874-1922) of Kolhapur, a descendant of the Maratha King Shivaji was very fond of this sport which was a symbol of high status. The

sport has continued even after the enactment of WLPA with a significant addition in the hunting by neo-rich farmers, rich urbanites, retired govt. officials and ex-Servicemen, as one of the means to rise in social status to level of the Jahagirdar and upper caste Maratha families. The hunters use licensed high-power rifles and shot guns acquired for sport, crop protection, or for self-protection purpose. They hire locals to drive out pigs from hiding places in bush or farms to the point where the hunters are waiting at pre-selected point for the kill. The hunting also involves other wildlife such as barking deer, sambar, hare, pea fowl etc. The meat is shared and distributed among friends, and families. Portion of the kill is also given to the people who assist part in the hunt.

Bollywood superstar Salman Khan who shot antelopes for fun in 1998 is the most famous of the lawbreakers. A Jodhpur court has convicted him under Section 51 of the Wildlife (Protection) Act, which carries maximum punishment of six years and minimum one-year jail term. But in 2021 he still remains free, with his fans cursing the Bishnoi villagers who caught him red-handed. But the poor and the weak are terrified of the law so that farmers over much of the country have been helplessly suffering from extensive wild pig damage of their crops and occasionally injuries and even deaths of people. So, people may simply ignore the law and there is a report from Kerala that in villages where villagers periodically conduct communal hunts for wild pigs, the wild pig damage is under control; elsewhere the damage has been on the increase. Another glaring instance of violation of WLPA is all over the North-eastern states

where I have personally witnessed extensive hunting of all species of birds and mammals in complete disregard for the law.

Veerappan

By far the most striking case of flagrant violation of forest and wildlife acts is the 34-year career of Koose Munisamy Veerappan (1952 – 2004), a bandit who was active for 36 years, and who kidnapped major politicians for ransom. He was charged with sandalwood smuggling and poaching of elephants in the scrub lands and forests in the states of Tamil Nadu, Karnataka, and Kerala. He poached more than 2000 elephants smuggling ivory worth ₹ 16 crore and about 65000 kilograms of sandalwood worth approximately ₹ 143 crore. He was wanted for killing approximately 184 people, about half of whom were police officers and forest officials and kidnapped prominent politicians and actors for ransom. The battle to capture Veerappan cost the governments of Karnataka and Tamil Nadu over ₹ 100 crore. He could continue in this fashion for such a length of time because he enjoyed widespread support from the local villagers. In early 1980s some nature conservationists I knew wanted to take out a public demonstration condemning Veerappan in the town of Erode in Tamilnadu. They had to give up the idea when many local people threatened to attack their demonstration stating that while Foresters only harassed them and prevented them from earning a decent living, they were grateful to Veerappan because he provided them sorely needed employment and earnings.

Unconstitutional Act

Under WLPA, people are not free to defend themselves against marauding animals as even driving them out of their homes and crop fields needs official permission. Yet the Indian Penal Code, sections 100 and 103 sanction voluntarily causing of death or of any other harm to the wrong-doer if: {1} An assault by the wrong-doer may reasonably cause the apprehension that death or grievous hurt will be the consequence of such assault {2} If the offence involves the wrong-doer committing house or property trespass or robbery. Wild pigs have on occasion killed people, they regularly trespass on farmers' properties and rob him of his produce. Elephants do the same, and tigers kill people and rob farmers of their livestock and dogs. Two personal friends of mine, a retired senior police officer and a retired High Court judge have told me that WLPA is clearly not valid constitutionally.

Wildlife management globally

No country other than India bans hunting outside National Parks, Wildlife Sanctuaries or Game Reserves. Hunting of some endangered species like wolf may be banned everywhere, but even that is not universal and, in the US, hunting of wolves is actively encouraged with a bounty in the state of Alaska. Australia has a system of positive incentives. Australian sheep ranch owners shoot kangaroos as competitors of sheep. Government asks them for bids as to how much they expect to be paid in return for permitting a certain number of kangaroos to exist on their ranches, accepts bids of those

bidding lowest and then pays based on a transparent system of verification.

Scandinavian countries adopt a truly rational approach towards wildlife protection, asserting that hunting is a wise, long-term utilization of renewable natural resources. These countries are globally at the top in both their Environmental Performance and Happiness indices; at the same time the freezers in the houses of many Scandinavians are full of meat of moose, reindeer, even foxes. The Swedish laws include the following provisions: 1) No one owns living wildlife, but landowners have the right to hunt on their land and can also lease access to other hunters. 2) Game meat is a commercial commodity that can be sold on the open market and is considered an important part of the culture. 3) Decision-making is decentralized through empowerment of local stakeholders. 4) Management of species such as moose has been gradually decentralized to allow more precise management in accordance with local management goals. Landowners are given responsibility to manage game populations on their land within a sound regulatory framework designed to incorporate data collected primarily by hunters. 5) Wildlife should only be killed for legitimate reasons including recreation and harvesting meat for the table. Wildlife can be legally killed in self-defence or defence of property.

It is notable that regulated hunting goes on even inside Sweden's National Park, the East Vättern Scarp Landscape Biosphere Reserve. Its rugged landscape, cut by many small waterways, is dominated by agriculture

and forestry lands, with villages and settlements consisting of small farms and individual homes. Hunting within legal limits is permitted throughout the Biosphere Reserve as everywhere else in Sweden. Notably, the emphasis in the National Park is on promoting research through special grants to scientific research groups and careful recording of wildlife numbers. Interestingly enough, the Scandinavian countries differ from other European countries in retaining cultural traditions of nature conservation such as protection of Storks as sacred birds.

Turning people against environmental protection

With time it is becoming more and more evident that Forest Department and the Wildlife Protection Act are highly flawed instruments of environmental protection. Because of the way these operate farmers and farm labourers, rural artisans, and forest-dwellers equate environmental protection with coming under the stranglehold of Forest Department; and hence reject all conservation efforts. This was the clear lesson of the experience of the Western Ghats Ecology Expert Panel. As a part of the exercise, I held detailed discussions with residents of several villages in Savatwadi, Dodamarg talukas of Sindhudurg district, suggesting to them that under our democratic system gram panchayats were the basic unit of governance and they should prepare their own development – conservation plans, and if they wish ask for their areas to be designated ecologically sensitive localities. The response was heartening with 25 gram sabhas requesting that their

areas be designated ecologically sensitive localities and suggesting the kind of development and conservation initiatives that are most appropriate for their localities. The development initiatives suggested included processing of locally produced fruit, promotion of ecotourism and watershed development, the conservation initiative they were most interested in was banning mining.^{xx} Alarmed by this expression of faith in our democracy, an influential politician supporting the mining lobby went around telling villagers that asking for ESA status would not mean their implementing conservation and development measures they favor but falling into tyrannical grip of FD.

Similarly, the experience of the Kerala Ecofragile Lands Act (2003) had convinced people that conservation can only imply coercion and extortion. Allegedly, the draconian EFL Act allowed FD to arbitrarily declare lands in the proximity of PAs as “ecologically fragile” without citing any scientific reasons. All individual rights were then extinguished leading to eviction of 8,000-plus farmers from 37,000 acres without compensation. Gram sabhas were not involved in the identification of these lands, and FD decided on lands to be taken over without field visits. Apparently corrupt officials had then and once again begun to extort bribes when WGEEP report was published. This was exploited by vested interests to fuel protests against acceptance of WGEEP report.^{xxi}

The Indian tradition talks of four instruments of governance, साम *saam* or conciliation, दाम *daam* or reward, दंड *dand* or punishment and भेद *bhed* or dividing

people. Today's environmental protection regime is grounded in dand, the tyranny of FD and bhed or pitting people against each other, e.g. farmers encouraged to use pesticides against the interests of fisherfolk. But on the ground environmental protection has been achieved over centuries by the people, and it is the people who are rising to protect their environment, their biodiversity today. It was Bishnois of Rajasthan who apprehended Salman Khan hunting antelopes in 1998 and are now doggedly pursuing case that has been dragging for years. Goa has retained its green mantle because of its village community based "comunidade" system and have had to face dire consequences of resisting the attempts of vested interests to appropriate community property. My friend Bismarck Dias died in most suspicious circumstances when as the president of the local comunidade he resisted the takeover of the hill by a Five-star hotel chain. More recently it was the people of Goa who protested against Railway Line passing through Mollem National Park, while the FD kept silent.^{xxii} Even worse, FD proposed to hand over 40% of Madhya Pradesh Reserve Forest to industry to clearfell and plant with exotic fast-growing species. It was the people who protested and forced the CM not to agree^{xxiii}.

The antipathy of people towards environmental protection merely benefits the crony capitalists and corrupt babus and netas who gain from exhausting and degrading our country's natural capital to make a fast buck. These include polluting industries, mines and quarry operators, real estate lobby and forest based

industries. In a notable incident in May 2020, a large number of migrant construction laborers wanted to leave Bengaluru at the end of the painful Corona related lockdown when the CM, Shri Yediyurappa cancelled railway trains forcing them to stay back to serve the interests of the construction industry wanting to retain poorly paid laborers. Ironically enough our economic pundits go on applauding such patronage of the rich and powerful as “Reform” and forcing the victims of degradation of their environment and attacks of wild animals to work long hours on meagre wages as “labour reform”. At the same time, they condemn handouts to weak and poor as “Populism”.

Surely, handouts both to the wealthy and the poor encourage irresponsible behaviour and are an impediment to progress. The lesson is clear: we must entrust the people at grassroots with the responsibility of conserving the entire spectrum of biodiversity, including wild birds and mammals, by taking away *danda*, the rod from FD and substituting it by saam, conciliation and daam, positive incentives.

Way forward

Our constitution and various acts provide space for a democratic pro-people, pro-knowledge, pro-nature framework for nurturing our biodiversity to replace the current Forest Department dominated set-up which is patently anti-nature, undemocratic, and anti-people. The 73rd and 74th constitutional amendments provide for ward / grama sabha level citizens groups to prepare environmental status reports. These reports could

incorporate information on the local biodiversity elements as well as their ecosystems. These ward / grama sabha level reports could be amalgamated to constitute Panchayat / NagarPalika / Mahanagar Palika level reports. The Biological Diversity Act (BDA) provides for the constitution of Biodiversity Management Committees (BMC) at the level of local bodies, namely, Panchayats / NagarPalikas / MahanagarPalikas. The Act leaves the choice of the number and identity of the members of BMC to the local citizens. Therefore, the BMCs of the various local bodies should constitute the first tier of a democratic system for management of biodiversity in the country. The set of these members could elect the members at successively higher levels, namely, as members of district level, state level the national biodiversity authorities. The higher-level authorities would coordinate the functioning of their constituents. Such a democratically constituted National Biodiversity Authority would then serve to interact at the international level. At all levels, the BMCs and Biodiversity Authorities would have administrators serving them to carry out secretarial functions, but not exert any authority. Such a set-up would nurse back our biodiversity heritage to a healthy state and help us move in the direction of a more equitable and just society.

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