

## **Tiger Conservation**

Wildlife resources constitute a vital link in the survival of the human species and have been a subject of much fascination, interest, and research all over the world. Today, when wildlife habitats are under severe pressure and a large number of species of wild fauna have become endangered, the effective conservation of wild animals is of great significance. Because every one of us depends on plants and animals for all vital components of our welfare, it is more than a matter of convenience that they continue to exist; it is a matter of life and death. Being living units of the ecosystem, plants and animals contribute to human welfare by providing -

- material benefit to human life;
- knowledge about genetic resources and their preservation; and
- significant contributions to the enjoyment of life (e.g., recreation).

### ***India's Tiger Poaching Crisis***

Evaluation of the tiger's conservation status revealed shattering news in the early 1990s with the discovery of large scale poaching and trafficking for the illegal international trade in tiger parts. The huge demand for tiger bones, destined for use in Oriental traditional medicine outside of India and as a macho supplement, is an added threat to India's tiger population. Practically every part of the tiger, from its whiskers to its tail, is used in traditional Chinese medicine. According to an estimate by the U.S.-based World Watch Institute, people in China and elsewhere in the Far East pay high prices for tiger bones and other tiger parts, with a single tiger's produce fetching up to U.S.\$5 million.

Poaching is done by mafia gangs and is a part of the thriving trade, which is thought to fund, to a great extent, insurgency in north India. In 1993–94, 36 tiger skins and 667 kg (1470 lbs) of tiger bones were seized in north India. Poachers use one of three methods to kill wild tigers: poison, steel traps, or firearms. The estimated cost for the poachers for each tiger killed is \$1 for poisoning, \$9 for trapping, and \$15 for shooting, distributed among four poachers. If charged and proven guilty, the maximum punishment is three years in jail and/or Rs.25,000 (U.S.\$600) in fines. There is no minimum sentence.

The Wildlife Protection Society of India has made a concerted effort to gather accurate information and document cases of tiger poaching and unnatural deaths of tigers throughout

India. Government sources state that 596 tigers are known to have been killed from 1994 to 2002; however, a nongovernment organization puts that number much higher (Table 3). Although international trade in tiger products has been banned under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), only 8 out of the 14 countries within the tiger's range comply with it.

**Table. Number of tigers poached in India, 1994–2002.**

<i>Year</i>	<i>No. of tigers poached</i>
1994	95
1995	121
1996	52
1997	88
1998	44
1999	81
2000	53
2001	72
2002	43
Total	649

### **Reasons for tiger decline**

The reasons for tiger decline in areas outside tigerreserves / protected areas are as below:

(i) Degradation of forest status outside Protected Areas / Tiger Reserves owing to:

(a) human pressure

(b) livestock pressure

(c) ecologically unsustainable land uses

(ii) Fragmentation leading to loss of gene flow from source populations

(iii) Loss of forest quality in terms of prey biomass

(iv) Tiger deaths due to man-animal conflict

(vi) Tiger deaths due to poaching

(vi) Loss of reproduction owing to disturbance on account of heavily used infrastructure like highways, etc

(vii) Lack of adequate protection outside protected area

(viii) Insurgency / law and order problems

### ***The Global Tiger Forum and Achievements of Project Tiger***

The International Conference on Tigers was held at New Delhi in March 1990, and was attended by countries within the tiger's range. A majority of the participant countries joined to establish a new organization—The Global Tiger Forum. The main aim of the forum is to protect the tiger from extinction at the global level.

Anywhere that tigers live today is high quality wildlife habitat. The success of Project Tiger has shown that no species, however important, can be conserved in isolation. Active involvement of the local people in the management of parks has made conservation measures more effective, and resource sharing ensures reciprocity of commitment.

Project Tiger has completed more than 40 eventful years as the largest and most successful conservation project of its kind in the world. The project's achievements are as follows:

- Better management of the reserves has improved the status of flora and fauna, and the endangered species have shown signs of recovery. There has also been an improvement in the carrying capacity of the habitat.
- Biogeographically representative areas of the tiger reserves have shown better signs of ecological security and preservation.
- The project has played a major role in providing education to, and recreation facilities for, the people.
- Enhancement programs include the management of buffer areas and tourism facilities in tiger reserves.

The landscape will continue to change, directly and indirectly, at the hands of humans, and as emphasized earlier, survival of humankind depends on maintaining the ecological balance among the living systems of the earth. New management and research initiatives have started a new era in tiger conservation.

### **‘Project Tiger’ and Conservation Practices**

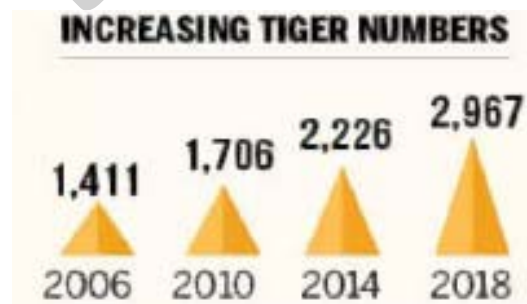
Tigers once inhabited a vast area from Turkey to the east coast of Russia and China, north to Siberia and south to the Indonesian island of Bali. The royal Bengal tiger, *Panthera tigris tigris*,

has always been an integral part of the life and legend of India. At the beginning of the 1900s, the Indian tiger population was estimated at 40,000 animals. The first official estimate, done in 1972, recorded only about 1800 tigers. This led to the establishment of a task force under the Indian Board of Wildlife, and based on their recommendations, 'Project Tiger' was launched on 1 April 1973 with the following objectives:

- to maintain a viable population of tigers in India for scientific, economic, aesthetic, cultural, and ecological values; and
- to preserve, for all times, areas of biological importance as a national heritage for the benefit, education, and enjoyment of the people.

At the beginning of the project, 9 tiger reserves were created. Currently, there are 27 tiger reserves in over 17 states. These reserves cover a total area of 37,761 km<sup>2</sup>.

The conducting of tiger censuses in India began in 2006, with the task assigned to the Wildlife Institute of India, a government body funded by the Ministry of Environment. According to the census conducted in 2006, it emerged that India was home to only 1,411 tigers. The numbers were certainly discouraging and cause for alarm for tiger conservationists and wildlife officials. This number increased to 1,706 in 2010, followed by 2,226 in 2014. This impressive increase in the number of Royal Bengal Tigers in 2014 can be attributed to improved conservation measures, use of enhanced technology, significantly better cooperation between wildlife forest officials and new estimation methods. It should be noted that India, at present, is home to a large number of the 3,500 tigers that are scattered across various countries like Nepal, Malaysia, Laos PDR, Myanmar, Bhutan, Cambodia, China, Indonesia, Vietnam, Thailand and Russian Federation.



**Population numbers of royal Bengal tigers in India reported by states, 1972–2002.**

	State	1972	1979	1984	1989	1993	1997	2001/ 02
1	West Bengal	33	65	97	95	97	62	60
2	Karnataka	102	156	202	257	305	350	401
3	Assam	147	300	376	376	325	458	354
4	Uttar Pradesh	262	487	698	735	465	475	284
5	Andhra Pradesh	35	148	164	235	197	171	192
6	Madhya Pradesh	457	529	786	985	912	927	710
	Total	1638	2732	3543	4026	3432	3508	3511

**Introduction to Project Tiger:**

Tiger (*Panthera tigris*) has been the integral part to the life and legend of mankind. The tiger has been feared and revered, hunted and worshiped; it has found its way into folklore and lullabies, books of worship, popular fiction and innumerable stories of heroism, bravery and adventure.

At present the tiger is an endangered species and has found its way in the Red Data Book. The tiger population has been reduced from 40,000 to 1,827 by 1972, mainly due to hunting, habitat loss due to deforestation and taming the rivers for human needs. Considering the fast decline of the tiger population, a special task force was set up in 1970 by the Indian Board for Wildlife to prepare an action plan to conserve the population of tiger in the country. As a result, in 1st April, 1973, Project Tiger was launched.

**Objectives of Project Tiger:**

1. To ensure maintenance of a viable population of tigers in India for scientific, economic, aesthetic, cultural and ecological values.
2. To preserve, for all times, areas of biological importance as a national heritage for the benefit, education and enjoyment of the people.

**Principles of Tiger Reserves:** In 1973-74 nine tiger reserves were established — located in 9 different states and covering a total area of 13,017 sq. kms.

**It was based on the following principles:**

1. Elimination of all forms of human exploitation and disturbance from the core and rationalisation of such activities in the buffer.
2. Limitation of habitat management to repair damage done by man with the aim of restoring the ecosystem as close to its natural functioning as possible.
3. Researching facts about habitat and wild animals and carefully monitoring changes in flora and fauna.

**Conservation Process in Project Tiger requires:**

1. The natural habitat of tiger and its food habit.
2. About the breeding habit and breeding season of tigers.
3. Its relation with other animals.
4. The number of animals present at any given time; reasons for their diminishing or increasing.
5. Places of drinking water and its arrangement.
6. Places of cover and shelter for tigers.
7. Enactment of the laws for their protection.

**Levels of Conservation: Conservation of tiger is done at the following levels:**

**Level I:**

The population of the tigers in any reserve is to be determined from time to time. The reasons for either their increase or decrease are to be noted. In case of decrease, the reasons are to be located and appropriate measures are to be undertaken.

If they encounter severe diseases then it should be diagnosed and immediate treatments are to be made. If the decrease in number is due to poaching then constant vigilance is to be maintained to keep poachers away.

**Level II:**

The food of tiger comprises of deer, sambar, wild boar etc. as it is a carnivore. Care should be taken to keep the food animals in sufficient numbers, so that the tiger need not come out of the forest for food and get killed by the hunters.

**Level III:**

It is essential to have know ledge about the breeding season of the tigers and the number of litters born. The litters should be protected from all sorts of danger including diseases. The diseased litters or tigers should be imprisoned and treated and later released into their natural habitat.

**Tiger conservation initiatives and success:**

The first official estimation of the Indian tiger population was done in 1972. About 1,827 tigers were recorded in the wild. This led to the setting up of a task force under IBWL which ultimately led to the launching of ‘Project Tiger’ in 1973, beginning with nine sites in nine different states :

**1.53 : Tiger census report of 1976 and the initial nine sites under Project Tiger**

Name of Tiger Reserve	Tigers
Sunderban (W.B.)	200
Manas (Assam)	41
Bandipur (Karnataka)	19
Kanha (M.P.)	51
Melghat (Maharashtra)	32
Ranthambhore (Rajasthan)	20
Palamou (Bihar)	20
Simlipal (Orissa)	15
Corbett National Park (U.P.)	35

The 1989 census showed that the number of tigers had increased to 4,334, both in the tiger reserves and other areas of wildlife (Table 4.54). The highest (269) number of tigers was reported from Sunderbans, followed by Kanha (97), Nagarjunsagar (97), Simlipal (93) and Manas (92). However, some alarming decline of tiger population was noted from some tiger reserves like Kanha, Manas, Sariska National Park etc. and in the two north-eastern states of Meghalaya and Arunachal Pradesh (which are outside the tiger reserves). By 1993 the number of Tiger Reserves had increased to 19 with the census reading (Table 4.54) estimating a total of 3,750 tigers out of which the Tiger Reserve population was 1,266 tigers. M.P. recorded the highest population of 912 tigers, which incidentally was the highest density of tigers anywhere in the world. In 1993 the second phase of Project Tiger was launched to refocus, restructure and reformulate strategies, so as to save not only the tiger and its habitat but also to conserve the entire biodiversity.

**The guidelines introduced were:**

1. To establish guidelines for tourism in the tiger reserves.
2. To provide management of buffer areas so as to ensure availability of adequate firewood and fodder for the people living on the outskirts of the reserves.
3. To integrate local population through ecological development programmes.
4. To establish Nature Interpretation Centres.

Since the inception of Project Tiger in the early seventies, the Government of India has invested considerably in the protection and conservation of tiger. The Tiger Task Force appointed by the Prime Minister has reviewed the work done over the years and has advocated the following urgent recommendations:-

- (i) Reinvigorating the constitution of governance.
- (ii) Strengthening efforts towards protection of tiger, checking poaching, convicting wildlife criminals and breaking the international trade network in wildlife body parts and derivatives.
- (iii) Expanding the undisturbed areas for tiger by reducing human pressure.
- (iv) Repair the relationship with local people who share the tigers habitat by fielding strategies for coexistence.
- (v) Regenerate the forest habitats in the fringes of the tigers protective enclaves by investing in forest, water and grassland economies of the people.

**Present approach to tiger conservation by Tiger task Force:-**

Owing to habitat fragmentation on account of ecologically unsustainable land uses, biotic pressure and poaching, the following approach is imperative:

**A) Consolidating / strengthening the source population of tiger and its prey in tiger reserves, protected areas and tiger bearing forests** This involves the following active managerial interventions:

- (i) Protection / anti-poaching operations / intelligence networking
- (ii) Strengthening of infrastructure within tiger reserves
- (iii) Creation of inviolate space through relocation
- (iv) Capacity building of frontline staff / local people and officers (including strengthening of training centres and training in related fields, viz. enforcement, intelligence networking, tourism activities, etc.)

**B) Managing the “source-sink dynamics”** by restoring habitat connectivity This involves the following managerial interventions:

(I) Actively providing incentives to local people for the eco-system services / corridor values provided by them by not degrading the forest (payment for eco-system services)

(ii) Incentives to local people for taking up plantations and protecting natural root stocks besides preventing free grazing

(iii) Encouraging stall feeding of cattle and fostering marketing of dairy products

(iv) Providing subsidized gas connection to local people for reducing their dependency on forest towards fuel wood collection

**C) Mainstreaming tiger / wildlife** concerns in the landscape through smart practices with other sectors to prevent / address man-tiger conflicts (sectors: forestry, agriculture, welfare activities through the district Collector sector, tourism, fisheries, tea-coffee estates, road/rail transport, industry, mining, thermal power plants, irrigation projects, temple tourism and communication projects operating in the landscape).

**D) For the future**

The issues in tiger conservation, are as below:

- Poaching and depletion / isolation of source population.
- Existing or potential disturbance from activities, such as construction of infrastructure, presence of settlements, and extraction of minerals or produce.
- Disruptions in traditional livelihoods of the local people, curtailment of their pre-existing entitlements due to conservation.
- Providing resource for management, including protection, of tiger reserves, protected areas and other tiger bearing forests.