



TIGER GETS NOTHING



Quenching thirst at road side, Hemraj Meena

By Manoj Vardhan

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Manoj practices Responsible Tourism and contributes part of his turnover to benefit stake holders i.e., rural folks who receive nothing as Tiger-Tourism revenue gets multiplied. He is based at Jaipur --Editors

Intriguing details are coming out of the variety of scrutiny being carried out about economic gains from Project Tiger Reserves in India. They pertain to tangible and intangible benefits. A tourism-turnover analysis, undertaken by me, reveals that maximum revenue from most popular Tiger Reserves was being pocketed

by the hospitality sector (USD 131.7 Million) followed by entry fee related revenue (USD 21.2 Million) received by forest authorities annually.

I have tried to cull out proceeds from eight Tiger Reserves considered as most visited. Ranthambhore tops in entry fee gains (USD 7 Million) and cited as most costly fee per person per safari. Corbett falls second in this category (USD 6.6 Million).

However, Corbett tops all Reserves for hospitality revenue (USD 60.2 Million) claiming nearly 300 hotels-motels located around the main forest boundary. Ranthambhore has more than a hundred resorts, some at stone's throw from the forest boundary (USD 30.1 Million).

Bandhavgarh, Kanha, Pench, Panna and Satpurda (all in Madhya Pradesh) and Tadoba (in Maharashtra) fall in the most visited category. I like to question: if 8 Reserves have been contributing such a huge revenue, what would be the total amount being received from all the 53 Tiger Reserves across India?

No estimates: I could not assess. Sadly, there are no records being maintained, neither by forest departments nor the private sector that boasts of the hospitality sector. A more disheartening feature is that the rest of Tiger Reserves are least visited as Tiger sightings are not as frequent as at other cited parks. I have tried to speak to innumerable hoteliers who appeared shy in conveying their

economic returns. Contacting forest officers appeared to be of no value in this regard. Only one Chief Wildlife Warden responded to my email.

A scrutiny of hospitality receipts further reveals that maximum revenue goes to hoteliers. I can state that all such properties are owned and managed by entrepreneurs hailing from urban areas. Almost all reached a Reserve from hundreds of miles to establish a resort and run it, because Tiger-Tourism means big money. To do so, each one has to be friendly with forest authorities. Does it mean more?

Stakeholders: What do the rural communities living around all Tiger Reserves receive? In my view the topic has not been tackled at all. I like to state that it is these folk who must bear the brunt of Tiger Conservation all over India. Their agriculture practices are invariably at close distance from the forest boundaries. Their hamlets or village clusters are, likewise, close by parks. No fences around any park, so wild boars at night and blue bulls during the day maraud their crops. The damage caused almost daily, remains unquantified and seldom talked about.

It is sheer age-old conservation tradition – 'live and let live'-- that drives village folk to sustain life and tolerate losses. They lose livestock as well, which are picked up by vagrant tigers or leopards, that often surprise rural pockets. The rule says only those livestock that may be killed by wild predators inside the park boundary, shall be entitled to cash compensation.

Only too generous park directors may agree to dole out an amount to the owner of a livestock bagged by a

predator. I know this officer who often shares his pangs and pathos with me.

Researchers and wildlife experts opine that the role of rural folk living around Tiger Reserves is most significant in Tiger Conservation. They are in a majority, in thousands of numbers, as compared to forest employees who may be couple of hundreds spread all around the forest periphery. About 5.2 million people live within about 26 Tiger Corridors across India's wilderness landscape. They represent 3,236 villages falling within 89 districts. I failed to cull out the total number of rural folks living around all the 53 Tiger Reserves.

Who cares: If the villagers pick up guns, the loss of predators inside the reserves will be incalculable. The authorities know that they shall not do so. How many of us bleed for such stakeholders? I can assess that the number of Non Government Organizations working around Tiger Reserves is on the increase. How many of them care to side with chronic needs of stakeholders? They are apparently prone to go along the flow as caused by the forest department.

I claim to practice Responsible Tourism for more than a quarter century. The work hinges on wilderness and wild species. The reason my turnover is comparatively less, is because of myself: proclaimed 'responsible' pursuits. Too obvious and I would like to elaborate the fact that Tiger yields an incredible degree of revenue for almost all sectors. However, Tiger receives nothing. Likewise, rural stakeholders receive nothing. Is it not an irony of Project Tiger, now in its golden jubilee? It is cited as the most successful programme across the globe.

SCIENCE vs TIGERS

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Amazing results are being received about Tiger's life as India continues to celebrate golden jubilee of Project Tiger (1973 – 2023). Yet many aspects

remain hidden. Reasons?

Science has to be given due role. Pug-mark count was developed by Saroj Raj Choudhury, a forest officer in Orissa, and was in vogue for decades. It provided an opportunity to forest authorities to also inflate number of Tigers. When camera-trap technique came into being, forest authorities appeared hesitant. The exact number of Tigers would be known, they felt?

Charles Mc Dougal, who hailed from Colorado, USA, applied camera-trap techniques on Tigers in Nepal's Royal Chitwan National Park where he served as Director of Wildlife for the Tiger Tops Jungle Lodges during early seventies. He applied collars over neck of Tigers to track down their range.

Billy Arjan Singh served as a role model in the private sector. Tigers were his passion. He introduced a Tigress in Dudhwa from UK. His objective was to study her behaviour and see if she would reproduce. The Tigress was shot dead by a forest officer as the final act.

Tissue testing is the key to decipher genetic variations among Tigers. Pick up its scat and collect its hairs from tree trunks, where it rubs its neck and body. Using such techniques, experts have reached definite results about threats of in-breeding among Tigers in a region.

Wildlife Institute of India is the lone agency in India undertaking such scientific studies on Tigers and associate wild species. Any reason why non-government experts are not involved? Nepal started doing during early 70s. India ought to attempt during 20s of this century. Should Science wait for decisions?

THEME FOR THE NEXT ISSUE

The theme for the next issue is people who work for wildlife conservation, and we hope that some of our readers will have a story to tell on this important subject.

However, as usual, we welcome good articles on any wildlife or environmental topic in addition to those on the theme for the upcoming issue.

If you would like to write an article, please request a style sheet for Conservation Times from emccrea@eecg.org.

The deadline for submitting articles for the next edition is **August 15, 2023**.

152.9 MILLION DOLLARS: REVENUE FROM 8 PROJECT TIGER RESERVES IN INDIA

S. No.	Names of Tiger Reserves	Vehicles & Entry Fee (Rupees)	Vehicles & Entry Fee (US Dollars)	Lodge and Board (Rupees)	Lodge and Board (US Dollars)
1	Ranthambhore	57.6 crore	7 Million	250 crore	30.1 Million
2	Panna	5 crore	0.6 Million	20 crore	2.4 Million
3	Bandhavgarh	20 crore	2.4 Million	100 crore	12 Million
4	Pench	7 crore	0.8 Million	35 crore	4 Million
5	Kanha	18 crore	2.1 Million	85 crore	10 Million
6	Tadoba	18 crore	2.1 Million	50 crore	6.4 Million
7	Satpuda	5 crore	0.6 Million	30 crore	3.6 Million
8	Corbett	55 crore	6.6 Million	500 crore	60.2 Million
	TOTAL	185.6 crore	21.2 Million	1070 crore	131.7 Million

Note: Data is collected by Manoj Vardhan



The famed Tiger, Charger coming out of a bamboo forest in Bandhavgarh, Harsh Vardhan



The male displays its athletic talents across a water body in Ranthambhore Tiger Reserve, Hemraj Meena

TIGER GIVEN NEW MARKET

By Harsh Vardhan

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Harsh is a citizen advocate for wildlife conservation and is based in India. -- Editor

Gung-ho for Tiger Finance!

A new calendar has been drawn to tap so far unexplored financial instruments and galvanize greater funds for tiger conservation in India. New ways will include:

*Tiger Cities

*Carbon Market within Tiger Reserves

*Carbon Credit through TERI

*Tiger Bonds

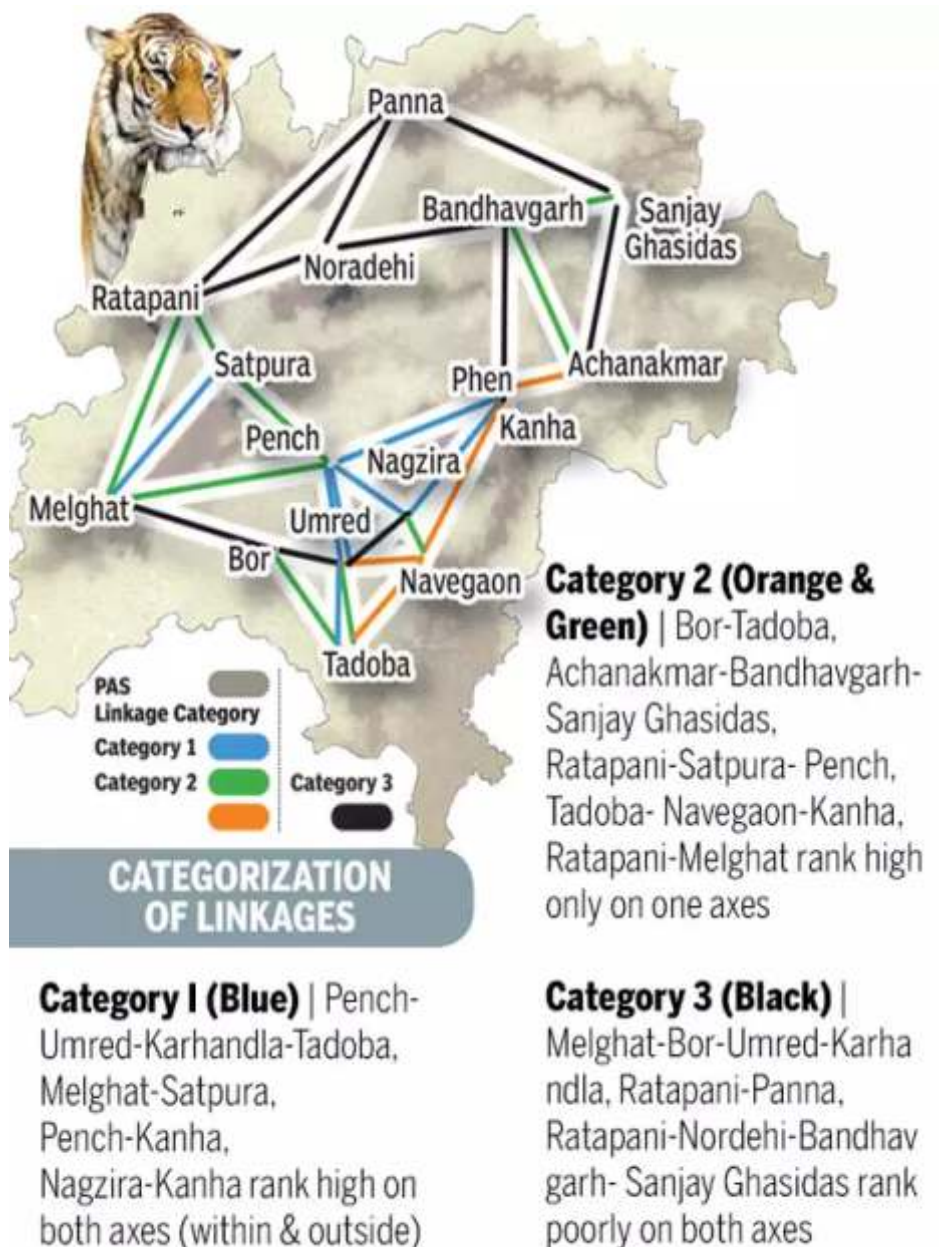
*Corporate entry into Tiger Regimes, etc.

The die is cast. India's Ministry of Environment, Forest, and Climate Change (MoEFCC) is tasked with new ventures. The new long-term plan is called as "Tiger@2047 Amrit Kaal Ka Tiger Vision". It was agreed at the golden jubilee event of project Tiger (1973 -2023) held during April 2023 in India's Mysuru city.

UNDP invited: The bold measures are aimed at inviting United Nations Development programme (UNDP) to ensure how Tiger Bonds be issued. The global organization has been requested to discuss it with investment banks and government to formalize such Bonds. The basic objective is to lure more private funds for landscape conservation.

Tiger Towns: The Ministry for Urban Development at New Delhi level is being tasked to visualize how Tiger Towns be established possibly at and around such Tiger Reserves which fall within ruro-urban periphery. It is to foster sustainability of traditional small towns proximal to Tiger Reserves.

Carbon Credit: The Energy Research Institute (TERI), a private organization led by noted business group, Tata in India, is to launch Carbon Credit schemes during current year. TERI is in the process of



negotiating deals with National Tiger Conservation Authority (NTCA) and State Governments in question of Tiger Reserves to be involved in such credits.

Five Tiger Reserves have been shortlisted to operationalize a voluntary carbon market: Sundarbans, Dudhwa, Pench, Kanha and Periyar. Kaziranga and Manas will be next reserves to be included.

The average carbon credit value of each Tiger Reserve is yet to be assessed. It will vary depending on the quality of the forest. Dudhwa is estimated to have a value worth USD

0.12 – 0.18 Million – 0.18.

CSR funds: Corporate Social Responsibility (CSR) funds are to be put to use at Tiger Reserves. Sariska Tiger Reserve is on the agenda where electric vehicles are proposed to be provided to forest authorities to ply over a 30 km stretch. It is to facilitate pilgrims visiting lord Hanuman temple located in core area of this reserve. A quarter million pilgrims visit the temple annually – cause of disturbance to wild species.

Dr. Rajesh Gopal, Secretary General of Global Tiger Forum, based at New Delhi, opines: Tiger is a surrogate



Are they searching their way to the new market being set out for them, Harsh Vardhan

indicator of things that go unnoticed and are un-factored in Gross Domestic Product. Tiger investment does a lot towards green GDP but remains unquantified. The term GDP is presently widely used as a reference point for the health of national and global economies.

Valuation: Dr. Madhu Verma, an economist emphasizing on economic values from Tiger Reserves, echoes: putting a monetary value on Tigers is the best way to convince stakeholders, corporate, policy makers, politicians and masses about the silent services received from tiger habitats. Each Tiger Reserve has its unique economic valuation based on its thriving ecosystem and services offered to society.

Bhupendra Yadav, India's Minister of State for Forest, Environment and Climate Change, states: Tiger Reserves generate employment to over 5 million person-days annually. About USD 1.2 Million were collected as tourist fees from Tiger Reserves during 2018-21. It was less

owing to conditions caused by COVID pandemic.

Gaurav Gupta, Advisor, Nature Investments, UNDP, cautions: Conserving Tiger and biodiversity is a complex issue. It requires an integrated approach to managing landscape coupled with long term outlook.

The new strategy is to convince global players to shell out big amounts of money and pitch in their brands, logos, etc., across Tiger landscapes. So, it ought to inflate the present kitty at disposal of all, nay just some Tiger Reserves. Do they not have sufficient funds?

Anomaly: Ulhas Karanth would like to argue: The Tiger Reserves are receiving a lot of money. However, it is not being utilized for fair resettlement of willing village families to make space for Tigers.

The State of Karnataka got USD 12 Million from C A M P A (Compensatory Afforestation Fund Management and Planning

Authority) but “not a dime was spent on voluntary relocation of villagers who had applied for such assistance in Nagarhole Tiger Reserve, Kudremukh, Kali and other Tiger Reserves”, Karanth asserts unhesitatingly.

Ulhas is Director emeritus at Centre for Wild Life Studies and based in Mysuru. He happens to be the first non-government expert to have applied camera-trap technique to bring to the fore truth about total number of Tigers in India.

Official stand: The Ministry's statement is: 56,247 families were rehabilitated from Tiger Reserves in India since 1972. They belonged to 751 villages spread over 50 Tiger Reserves. USD 0.01 Million are provided to each family as rehabilitation-package.

As corporatization of Tiger landscape gets going, communities around all Tiger Reserves present an altogether scenario. It has been analyzed in a separate item in his edition.

CONNECTING CORRIDORS NEW PATHS FOR TIGERS



What facility provided as a collared Tiger crosses a corridor road in Central India, Dhyanesh Shriram Rathod

By Rupali Vardhan

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Rupali practices hand-block-printed textiles and as per designs suggested by buyers. She also does economic analysis and did this piece for Conservation Times -- Editors.

More than five million people are living at and around half the number of total 53 Tiger Reserves in India. They are spread over as many as 3,236 villages in 89 districts. Such people must face the movements of tigers any time of day or night.

Such details have been elaborated in a research study undertaken by Wildlife Institute of India (WII) on behalf of the National Tiger Conservation Authority (NTCA). The title of study is "Connecting

Tiger Population for Long-term Conservation."

WII Study: The 292-page study is authored by WII experts, Q. Quershy, S. Saini, P. Basu, R. Gopal, R. Raza, and Y. Zhala. They visited all the Project Tiger Reserves several times to investigate habitat and interact with forest authorities. Most of the field observations were conducted by forest guards who work at grass root levels.

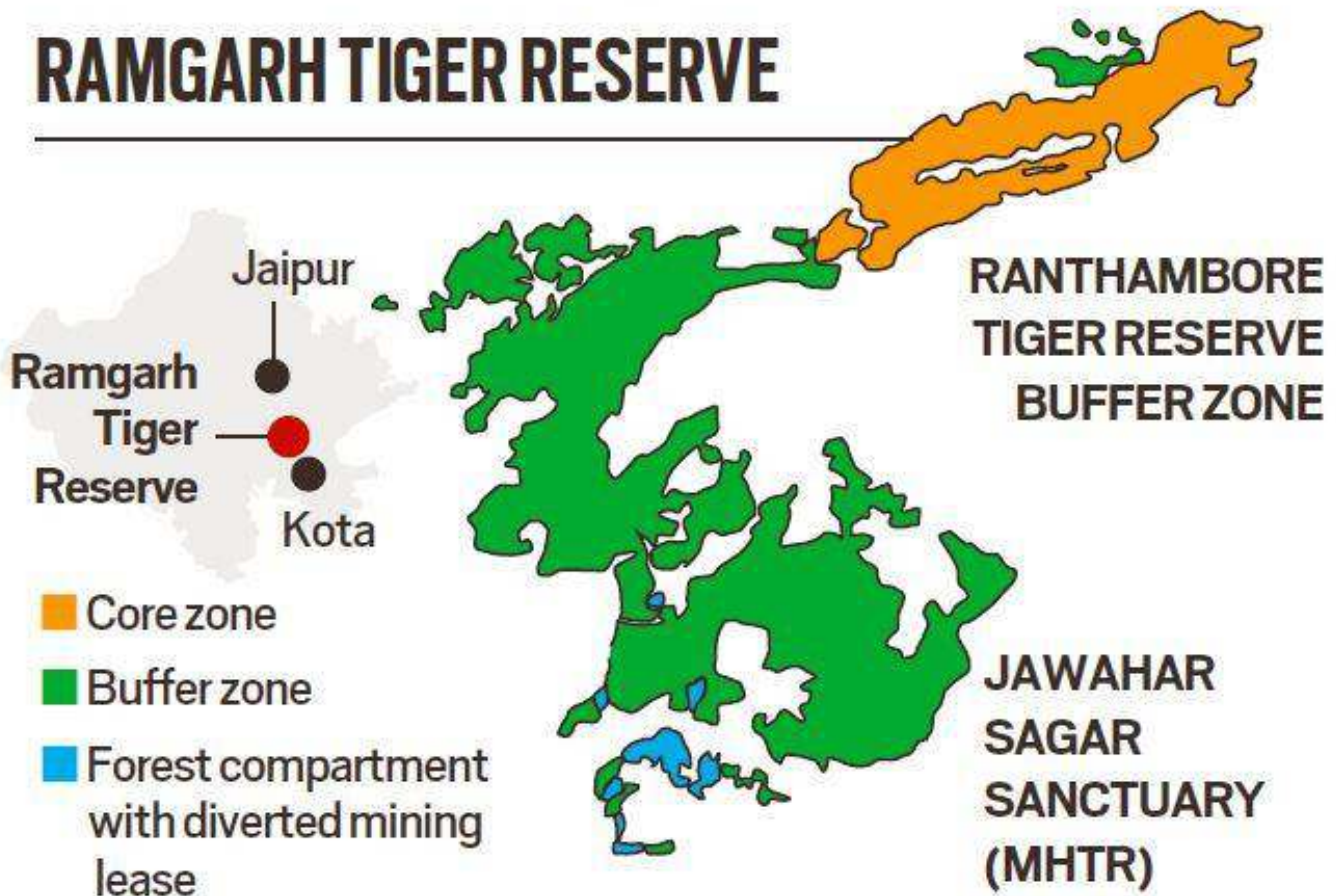
It is the first such Tiger Conservation Study in the world. It has mapped all tiger reserves in India and tried to find the corridors that once connected these reserves. Total 59 corridors have been identified. They are located from Rajaji-Corbett Tiger Reserves in north India to a southern most tiger reserve called Kalakad Mundanthurai in Tamil Nadu.

It also lists corridors in India's northeast landscape where the tiger has found facilitating habitat for its successful breeding over the past decade. They include Manas, Kaziranga, Buxa, Nameri, Pakke, Namdapha, Dampha, Dibru-Saikhowa, D'ering-Mehao and several wildlife sanctuaries spread over nearly 136,000 sq. km., landscape.

Space: India has more than 3,000 tigers as per 2023 estimated census. They reside in 53 Project Tiger Reserves functioning in the country. The study acknowledges the fact that tigers have been breeding exceptionally well for about a decade in India.

However, it clearly indicates that the tigers are reaching the maximum capacity in many reserves. Hence,

RAMGARH TIGER RESERVE



some tigers are forced to move out and search for new habitat. In most cases, habitat outside of present reserves is limited to nearby forest where the tree cover is less, prey base is inadequate, water sources are

limited, and anthropogenic pressures are great.

Forest authorities fully tally with the study and confirm that tiger breeding is reaching capacity within the designated reserves. Therefore,

movements of tigers beyond the present reserves is now posing major problems.

The study presents so far unrecognized facts about the tiger status and movements vis-a-vis newly increased population. It highlights two categories of tiger populations: one is called Source and the other Sink.

How: Both the Source and Sink are of long-term significance. The Source is the population of tigers within the designated reserves. Such reserves are providing part of their tiger numbers to other reserves. The recipient reserves are called Sinks. Corridors are needed to connect Sources to Sinks.

The study leaves some pertinent aspects unanswered such as how to relocate the lost corridors. These areas fall outside government forest domain and remain administered by revenue agencies. As the prey base is usually scanty, new arriving tigers consume domestic livestock. This predation adds to the management problems for foresters.



A Tiger being examined by experts in Panna Tiger Reserve, WII

BANDHAVGARH TIGER RESERVE EARNS USD 29,290 DAILY



Looks like a tourism bazaar in Bandhavgarh's Rajbehra habitat, HV's records

By Satyendra K Tiwari

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**Satyendra Kumar Tiwari enjoys about thirty years' experience in wildlife tourism and knows flora and fauna of Central India. He can recognize wild species even without using binoculars. He is proud of being in the forests each day and stays at his cottage at Bandhavgarh Tiger Reserve--
Editors**

On average about 150 gypsies (tourism vehicles) enter Bandhavgarh Tiger Reserve (BTR) per day. Rental price for each gypsy is about US Dollars 41 while there is US Dollars 32 as entry fee for all six passengers in one gypsy. US Dollars 6 are charges for each guide per gypsy, per visit to the Reserve. Total cost for all gypsies can be US Dollars 11,539 per day.

Six persons occupying a gypsy are expected to incur total about US Dollars 118 per day for their lodge-

board at hotels located around Bandhavgarh Reserve. It is a modest average. For all gypsies, it is to be US Dollars 17,751 per day.

Add all this and I estimate that US Dollars 29,290 could be the daily turnover from tourism at Bandhavgarh Reserve alone.

Incalculable: In my opinion the total tourism turnover at all the Tiger Reserves in Madhya Pradesh can be about US Dollars 237,000 per day. It includes lodge, board, park safaris, etc. The Tiger Reserves included are Panna, Bandhavgarh, Kanha and Pench, which are most favourite with visitors owing to excellent sightings of Tigers.

The Reserves remain closed during July, August, and September owing to monsoon conditions. Sometime the tourists' arrivals may be weak. Considering nearly 200 days of tourism arrivals at these Reserves, the total revenue amounts to about US Dollars 474,000 per annum. It is a

conservative estimate as many tourists stay at more costly resorts.

Bandhavgarh National Park is spread over about 716 sq., km. area. It represents the characteristic broad leaf central Indian forest having a couple of high hills with slow flowing rivers, numerous water bodies and widespread meadows. Hence a living abode for rich biodiversity. The record making white Tiger, Mohan was sighted in an adjacent forest.

Tiger, main interest: Tiger and leopard are the main predators here and they depend upon at least 37 species of prey base of mammals. More than 250 species of birds and about 80 species of butterflies have been recorded here.

Bandhavgarh has one of the highest densities of tigers. Charger, a tiger so named because of his habit of charging at elephants and tourists, was the renowned healthy male at Bandhavgarh since the 1990s. So was a female known as Sita, may be of



Embracing each other while having a bath in Bandhavgarh, Harsh Vardhan

same age. Charger once appeared on the cover of National Geographic Magazine. I sense that almost all the tigers of Bandhavgarh today are descendants of Sita and Charger.

Reintroduction: Gaur (Indian Bison) had become extinct in Bandhavgarh. It was reintroduced from Kanha about fifteen years ago. I believe its number will exceed 150 now. It is a testimony to

reintroduction initiatives in India. It was executed by forest department with technical support from Wildlife Institute of India. I am told a local hotel contributed some amount to let it happen.

I often face heated discussions with forest officials at Bandhavgarh and at Bhopal, their head office. They always cite examples of 'development' made at Tiger

Reserves citing new initiatives made by each Field Director. I simply ask: in comparison to civil construction or repair works you undertake, what percentage of expenditure is incurred over more crucial endeavours to increase biomass across meadows, energize water regimes, create moist grass habitat and allied programmes which are essential equity for nature? Meetings end with a cup of tea.



The Tigress flexes its muscles in Ranthambhore, Hemraj Meena

SUGARCANE TIGERS



A Tiger tranquilized and being taken out of a sugarcane field, Sanctuary Asia

By Editors of C.TIMES

Sugarcane belts are unique to India's Terai region. The tigers living in adjacent forests generally adopt such fields as their new home. Hence, they are popularly known as Sugarcane Tigers! Forest officers, however, beg to differ.

Ram Lakhan Singh, who was once posted as Field Director of Dudhwa Tiger Reserve, said, “These are the same tigers, gone out of the forest to stay in nearby sugarcane fields. They are not a different breed.”

Symbiotic: He, however, could not deny that sugarcane farmlands maintain a considerable population of tigers. These predators function as “chowkidars” (guards) for cane crops. The farmers like that and tolerate their presence. “Often, they enter sugarcane fields chasing wild boars and hog deer. They eat the herbivores that destroy the crop. That is the symbiotic relationship with cane growers” Ram Lakhan said.

In a forest, there is constant competition from other tigers over prey and territory. So domestic cattle around sugarcane fields come as easy food to tigers. Tigresses prefer to give a litter in cane fields as they receive protective cover and easy prey in rural pockets.

The scene is fraught with threats for villagers. Female workers usually harvest cane, and they often come face to face with the tigress with cubs. Injuries and often fatal incidents occur. They add to the woes of forest authorities.

Dudhwa is a long-standing forest made famous by Billy Arjan Singh who stayed at his farmhouse located close on border with this wilderness. In his passion he had obtained a tigress from Britain and introduced it in the forest. The female often was observed at the main gate of his farmhouse. He was keen to ensure she bred and increased the number of predators in Dudhwa. He did a book, titled as “Tara” to narrate his

experiences with this female. It carried interesting photographs of the feline by his knee-side.

Shot dead: However, Tara was challenged as an 'exotic' breed coming from a captive farm in Britain. Ram Lakhan Singh had a conversation with Harsh Vardhan at Dudhwa (80s) to say that he had shot Tara down to maintain the local blood line of Dudhwa tigers.

Billy was a legend and an ardent supporter of tiger conservation. Had it not been intervention by Indira Gandhi, then Prime Minister of India, that tigress would never have reached Dudhwa. Mamta Vardhan can recall her experiences at Billy's farm house when he even drove his jeep to drop her family back to Dudhwa's forest rest house.

Pilibhit Tiger Reserve has come up in the same landscape which had been dominated by Dudhwa so far. It is a widespread sugarcane belt with patches of forests.

TIGER BUSINESS

By CTIMES Desk



Actress Fan Bingbing wears a tiger themed dress on the red carpet at the 2023 Cannes Film Festival. Photo credit: Daniele Venturelli/Getty Images

What is the approximate revenue of all the gift shops operating at various hotels and resorts at different Tiger Reserves in India? “It is not easy to assess as it is a loose market,” said Hemraj Meena who runs a B&B at Ranthambhore Tiger Reserve where he prefers to display authentic gift items for visitors to pick up.

Authentic? He explains it means items prepared by local villagers which he would like to procure and sell to support the economy of villagers living around this Reserve. His turnover is small.

Other hoteliers have similar shops. They procure items from urban pockets where manufacture is in bulk and essentially urban traders pocket the revenue. They have no idea about villagers to be supported in any way. One of the owners of three resorts at the same Reserve plainly conveyed: government should look after villagers as our business is tiger tourism.



Corbett has about 300 hotels and Ranthambhore about 100. Total shops may be about 1000 at all popular Tiger Reserves. They sell items supplied by city traders/manufactures like skirts, blouses, quilts, cloth bags, T-shirts, paintings, and sundry items of household use. Many of the items bear a tiger emblem over them.

Is it to impress buyers that they are picking up Tiger-items at the Tiger

Reserve? Hardly any shop is named as a Nature Shop.

Visitors who stay at such hotels appear nonchalant about where their money went. They buy and drive back to their own places. When a few were questioned, the reply was: We buy whatever was available there, admitting that it was probably similar stuff as was sold in cities.

Books are the genuine items at all such shops, on birds, mammals, reptiles, butterflies, insects, etc. Barring bird books, most of them are coffee-table size and costly. Hardly any publications could be spotted at such shops on flora-fauna of the Tiger Reserve they were serving.

CTIMES has received a photograph of a famous actress posing before a battery of photographers. She is displaying her skirt which highlights a Tiger. Is it Russian Tiger, or Chinese, or Indian? No clues.

Tigers are business everywhere.

TIGER ANTHEM: NALLA STEALS SHOW



A Tigress with cubs, Nalla coins 'stories' seldom imagined by experts, Forest source

From CTIMES Desk

The leading media giant in India, The Times of India has led wildlife conservation movement by launching Tiger Anthem (https://www.youtube.com/watch?v=sCrvaG_aMGI).

It is a short film on a tigress and her cub. How she takes care of the cub that plays with her tail, mouth, neck, etc. She tolerates the cub's impish activities and tries to teach lessons to it whenever it runs far away or indulges in misadventures. The scene is from Tadoba Tiger Reserve in Maharashtra.

The film was shot by S. Nallamuthu, a renowned wildlife director. Its music is provided by Shantanu Moitra, a noted musicologist in India's Bollywood. He did music for a popular film, "Three Idiots." The anthem's words are scripted by a poet serving India's film industry, Tanveer Ghazi.

Nalla has to his credit some award-winning wildlife films, nay Tiger series from India's Tiger Reserves. His film on "Machhli" in Ranthambhore Tiger Reserve became



Nallamuthu and Shantanu Moitra who created Tiger Anthem, Nalla



Machhli Tigress at Ranthambhore, when she lost her canines, Forest source

a global hit in wildlife annals. He told Conservation Times, "I now wish to devote more time to wildlife entertainment movies as shooting in Tiger Reserves was no more as easy as it was earlier."

India's Environment Minister, Bhopendra Yadav formally released the Tiger Anthem at an event.

WHAT WILDLIFE TOURISM CAN DO?



Shiela and Ivan fishing at Corbett, Manoj Vardhan

Source: World Tourism Organization

Wildlife tourism refers to the observation and interaction with local animal and plant life in their natural habitats. It encompasses segments such as eco-tourism, safari tours and mountain tourism, among others. Wildlife watching tourism occurs mainly in protected areas.

According to the UNWTO Report, "Towards Measuring the Economic Value of Wildlife Watching Tourism in Africa," 7% of world tourism relates to wildlife tourism, a segment growing annually at about 3%. The same document shows that a total 14 countries in Africa are generating an estimated US\$ 142 Million in entrance fees for protected areas.

Big help: A WWF report shows that 93% of all natural heritage sites support recreation and tourism and 91% of them provide jobs. For instance, in Belize, more than 50% of the population are said to be supported by income generated through reef-related tourism and fisheries.

Wildlife represents biodiversity, essential for our health and the well-being of the whole planet. We live in an interconnected ecological system, where each macro- and microorganism, whether animal, plant or fish, affects the other.

Alteration of the natural habitat of any organism will trigger a dynamo effect, so non-equilibrium in the ecological system as a whole endangers the life cycle of many species. Around 40,000 species of animals, fungi and plants benefit humans. More than a third of our pharmaceuticals originate from wild plants.

Benefits are numerous from wildlife tourism.

Biodiversity: In nature, different species are connected through various food webs. The disappearance of one species could influence several others down the line.

Agriculture: Promoting wildlife conservation could help secure future food supplies.

Research: There may be many undiscovered plants and animals in the wild. 50 percent of the drugs available in the United States were originally developed from microbial organisms, plants, and animals.

Economics: Ecosystem activities have an effect on the quantity and quality of fresh water accessible to humans.

Ecotourism: Enjoying ecosystems has been a tremendous stimulus for economies within Africa and India.

Environmental Indicators: Various

animals can serve as indicators for other environmental problems. This is one of the rarely discussed benefits of wildlife conservation. The loss of peregrine falcons and bald eagles was one of the factors that alerted scientists to the toxicity of DDT, unnoticed for longer in a less diverse ecosystem.

Education: Studying animals and their habitats can be a valuable learning experience for students of all ages.

Psychological Benefits: Eco-tourists experience a tremendous sense of wonder, contentment, and fulfillment from their wildlife encounters.

The World Tourism Organisation has put forward new recommendations for rebuilding the tourism industry. However, some wildlife experts in India are disappointed to see there was no mention of wildlife-friendly tourism in its new scheme.

Whither India: When it comes to wildlife tourism at global level, all organizations cite case studies of African wildlife tourism. India finds hardly any mention as Indian studies have been inadequate in this sector. This sector is growing fast, especially in Tiger Reserves. The revenue of some reserves has been cited in this edition.

ELEPHANTS ENTER MARKETS



A wild Tusker on rampage in a town in Tamil Nadu, Forest source

By Editors of CTIMES

Panic has gripped the residents of several villages and towns in Tamil Nadu and Kerala states in India for several months. Causes? Wild Elephants entering residential colonies and go on rampage, injuring people and causing damage to urban properties.

Cumbum Town of Theni District (Tamil Nadu state) registered death of a dozen persons due to attacks by Elephants. Was it a Kerala Elephant or one belonging to Tamil Nadu, two states sharing border as well as movements of wild Elephants?

Panic: There is one tusker, popularly called Arikomban in Kerala. It was seen running amok across many streets in cellphone-visuals shot by locals. In some of the videos, it could be seen coming dangerously close to people on the road.

The rogue elephant spread panic in its original habitat in Chinnakanal near

Munnar (Kerala state). Munnar is a popular hill station and known for widespread tea and spice plantations. It is part of the Western Ghats and hosts several endemic species of birds. People ran helter-skelter as the elephant frequently raided and destroyed houses and shops in search of rice.

It was captured and relocated to the Periyar Tiger Reserve in Thekkady, close to the Tamil Nadu border, during April 2023. The Kerala High Court intervened to order for its capture. However, days after its translocation, the radio-collared tusker ventured into the Tamil Nadu side and was seen in the hill station of Meghamalai, forcing authorities to suspend tourist entry there.

After nearly a week in Meghamalai, Arikomban had returned to Periyar Tiger Reserve (Kerala). But it tried to enter human settlements near Kumily town, the main entry for Periyar Tiger Reserve. It was chased back to the

wild by the Kerala Forest Department. But to the dismay of the authorities, it crossed the border again and ventured into Cumbum, a border town with a large population, vast farmlands, and industries.

Court Order: Arikomban was one of the several rogue tuskers that were creating trouble for people in Idukki, which has one of the highest densities of wild elephant populations in Kerala. The Kerala High Court ruled that Arikomban should not be kept in captivity but should be captured, radio-collared and released in a different location where chances of human-elephant conflict will be less.

Based on this, Parambikulam Tiger Reserve in Palakkad district (Tamil Nadu) was originally chosen for Arikomban.

But the location was subsequently changed to Periyar Tiger Reserve in Idukki (Kerala) due to protests from those living near Parambikulam.

Andhra Pradesh state has similar issues with wild Elephants which enter neighbouring Karnataka state. Both states' forest authorities lock horns over the issue: To whom do the

vagrant Elephants belong? India boasts of an Elephant Project. As conservation initiatives gain ground for the wild mammal, human wildlife conflicts increase. What rationale:

anthropogenic growth around forests may be the main cause of conflicts. Will local people make space for this large animal in face of their growing businesses and urbanization?

CITES, LONE AGENCY TO CURB TRADE IN WILD SPECIES

By Editors of CTimes

Annually, international wildlife trade is estimated to be worth billions of dollars and to include hundreds of millions of plant and animal specimens.

The trade is diverse, ranging from live animals and plants to a vast array of wildlife products derived from them, including food products, exotic leather goods, wooden musical instruments, timber, tourist curios and medicines.

Levels of exploitation of some animal and plant species are high and the trade in them, together with other factors, such as habitat loss, is capable of heavily depleting their populations and even bringing some species close to extinction.

Safeguard: Many wildlife species in trade are not endangered, but the existence of an agreement to ensure the sustainability of the trade is important in order to safeguard these resources for the future.

Because the trade in wild animals and

plants crosses borders between countries, the effort to regulate it requires international cooperation to safeguard certain species from over-exploitation.

CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) was conceived during the seventies in the spirit of such cooperation. Today, it accords varying degrees of protection to more than 37,000 species of animals and plants, whether they are traded as live specimens, fur coats or dried herbs.

CITES is an international agreement between governments. Its aim is to ensure that international trade in specimens of wild animals and plants does not threaten the survival of the species.

Large cover: Over 40,900 species – including roughly 6,610 species of animals and 34,310 species of plants – are protected by CITES against over-



exploitation through international trade. They are listed in the three CITES Appendices. The species are grouped in the Appendices according to how threatened they are by international trade.

They include some whole groups, such as primates, cetaceans (whales, dolphins and porpoises), sea turtles, parrots, corals, cacti and orchids. But in some cases only a subspecies or geographically separate population of a species (for example the population of just one country) is listed.

India is a party to CITES and had occupied its Chair during early eighties when its convention took place in New Delhi. Samar Singh represented as Head of CITES as he was then Joint Secretary in Department of Environment, New Delhi.

HUMMINGBIRD & JAGUAR

Environmentalist Chris P. Nwachukwu

According to an old Native American legend, one day there was a big fire in the forest. All the animals fled in terror in all directions, because it was a very violent fire. Suddenly, the jaguar saw a hummingbird pass over his head, but in the opposite direction. The hummingbird flew towards the fire!

Whatever happened, he wouldn't stop. Moments later, the jaguar saw him pass again, this time in the same direction as the jaguar was walking. He could observe this coming and going, until he decided to ask the bird about it, because it seemed very bizarre behavior. "What are you

doing, hummingbird?" he asked. "I am going to the lake," he answered, "I drink water with my beak and throw it on the fire to extinguish it." The jaguar laughed. 'Are you crazy? Do you really think that you can put out that big fire on your own with your very small beak?' "No," said the hummingbird, 'I know I can't. But the forest is my home. It feeds me, it shelters me and my family. I am very grateful for that. And I help the forest grow by pollinating its flowers. I am part of her and the forest is part of me. I know I can't put out the fire, but I must do my part.' At that moment, the forest spirits, who listened to the hummingbird, were moved by the

birdie and its devotion to the forest.

And miraculously they sent a torrential downpour, which put an end to the great fire.

The Native American grandmothers would occasionally tell this story to their grandchildren, then conclude with, "Do you want to attract miracles into your life? Do your part.

"You have no responsibility to save the world or find the solutions to all problems but to attend to your particular personal corner of the universe.

As each person does that, the world saves itself."

ALL WOMEN TEAM TRACKS PLASTIC POLLUTION AT GANGES BASIN

By Mansee Baal Bhargava

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Mansee Bal Bhargava is a qualified architect. She is passionate about nature conservation and had an extended stay in The Netherlands to study such aspects. She has conducted an in-depth study of Man Sagar Lake in Jaipur to estimate citizens' stake at this scenic water body. She is staying in Ahmedabad.

An all-women team has come together to address the menace of plastic pollution in water bodies, specifically rivers, under the project “Tackling Plastic Pollution in the Ganga Basin.”

The project is initiated by the Centre for Global Affairs and Public Policy (CGAPP), a non-profit, independent organisation instituted in 2021.

As a beginning, CGAPP has invited an all-women team to conduct applied research to map the presence of plastic on the land, in the water, at the land-water interface, and among different stakeholders. The research, planned for April to November 2023, includes scholars from multi-disciplinary backgrounds coming from across the country. The WforW Foundation and the Water Resources Council of the Women's Indian Chamber of Commerce & Industry (WICCI-WRC) joined the research as knowledge partners.

Ganges: The research is inspired by a 2019 National Geographic Society project “Plastic: Source to Sea”, in which an all-women expedition team, led by Heather Koldewey and Jenna Jambeck, traversed the Ganga Basin before and after the monsoon season and used rapid assessment methods for research.

A major outcome of the project is the 'Methods Toolkit' which laid the foundation for the current research.



All Women team experimenting at the Ganges, Mansee Baal

Other outcomes, such as the physical quantification and classification of plastic typology, guide the current research to build upon the existing knowledge with detailed social-institutional engagement to understand the problems and seek solutions to pollution.

The River Ganga is being studied at Rishikesh-Haridwar, Prayagraj, Varanasi, and the Sundarbans in India and Bangladesh to understand the nature of plastic pollution and seek solutions with the respective stakeholders of the region.

Research: Each location involves week-long research termed as expedition by the all-women team, followed by a two-day expo to invite the start-ups from across the country and the local stakeholders to initiate a dialogue between them for a continuous engagement solution to pollution.

The first leg of the expedition and expo was conducted during early 2023. The research expedition took place on 101 kilometres from Devprayag traversing through Kaudiyala, Tapovan, Rishikesh Muni

ki Reti, Rishikesh Triveni Ghat, Gohri Mafi, Haridwar Har ki Pauri, Haridwar Main, Kankhal, and Kangri.

More than 20 water samples and over 20 sediment samples were taken, and over 100 surveys and 50 expert interviews were conducted.

Blue Planet: Earth is the only planet in the solar system which has extensive water resources. 71% of the earth's surface area is occupied by water. For this reason, it is known as the Blue Planet. The only reason life persists on Earth is because of the presence of both freshwater and seawater in it. Water is very essential for the survival of the human race.

Of the 71% of water, only a small portion is available for drinking. Thus, it is crucial to saving water. Water should be conserved because the supply is less; the requirement is increasing with the increasing population. The quantity is limited, whereas the demand is unlimited. For the community to not outrun the amount of water available, water must be used very carefully. Saving water is very much needed to save life on Earth.

“KHADEEN” AND “NADI”: LIFE-LINE in THAR DESERT

By Rohit Jindal

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Drawing water from a dug well at a Khadeen, Forest source

Rohit Jindal is an Associate Professor in the Department of Decision Sciences at MacEwan University, Edmonton, Canada. The story is based on the author's field visits to several traditional water management systems in the Thar desert in western Rajasthan.

Thar desert on India's northwest periphery is full of challenges. Yet, Thar is home to the highest human (and perhaps even cattle) density among any large desert worldwide. It is a fragile ecosystem where humans survived for centuries by building ingenious structures to preserve the most valuable commodity in this arid climate – water. Water was the currency in which the local economy operated.

However, what took ages to develop is in rapid decline. Many water management systems are in disrepair due to encroachment in their catchment

areas or a lack of knowledge on how to run them. Reviving these traditional systems requires an understanding of their crucial role. Two such systems are the “nadis” and “khadeens.” While “nadis” can be seen in many parts of western Rajasthan, “khadeens” are more common in Jaisalmer.

The people considered water to be plenty once they discovered how to conserve it. Wherever rain fell, it was carefully diverted and used wisely; and when there was no rain, there was water to be harvested from the sub-surface recharge aquifers. While many of these traditional water harvesting structures now lie dilapidated, some are still functional even after centuries of use. An outsider can easily miss these, especially in the dry season when the gentle contours that lead to water diversion are hard to differentiate from what appears to be a flat landscape.

Nadis are shallow, artificial ponds that can store water for a few months to year-round. They are usually located in village grasslands known as “orans” and “gauchars,” making them part of mixed water-pasture regimes. For them to function well, these regimes need careful maintenance lest the water-holding impermeable layer of soil is breached.

Local rulers commissioned such “nadis” to retain water for human and animal consumption. They marked these nadis with stone pillars that carried information on when and how these nadis were constructed. Nadis are essential for maintaining the desert's economy.

An example of such a “nadi” can be seen in Mokla village, 29 kilometers northwest of Jaisalmer on the Jaisalmer-Ramgarh highway. Much of this landscape in Mokla is part of



Khadeen-layout, how it works in the Desert, Forest source



Khejri tree, Rohit Jindal

Dungar Pir ji “Oran,” a sacred grassland extending to over 40,000 bighas (about 6,500 hectares). Indeed, it is common to see herds of camels lazily browsing on khejri trees in the area. The oran has been with the village for centuries, and the local community is currently registering it with the district administration.

Most “orans” in Rajasthan are associated with a local deity, hence being revered as sacred. The Dungar Pir ji temple, located within Mokla's “oran,” is a small but imposing structure covered in white, with beautiful frescoes painted on its outer walls. Next to the temple is a shallow pond or “nadi,” that stores water flowing in from a catchment that

extends to several hundred hectares of the “oran.” It is the Jelipa “nadi,” and legend has it that it has existed for more than 800 years, as old as the Jaisalmer fort itself. Trees in the “orans” slow the water runoff, hence more percolation of rainwater into the nadi. “Nadis” are a lifeline for cattle and even wildlife in remote areas with few water sources during the dry season.

A few kilometers from the Dungar Pir Ji “oran” is another ingenious water harvesting structure called “khadeen.” At first, one only sees flat lands with some moisture visible on the surface. Away, in the distance, is a low, muddy dam (less than a meter in height) that extends to hundreds of meters. The dam and the upstream area around it

constitute a “khadeen,” a centuries-old invention of the Paliwal Brahmins of this area.

“Khadeens” are constructed on gently sloping lands with fertile topsoil, even if a non-porous, rocky layer is underneath. During monsoon rains, the low khadeen wall is a barrier to the flowing water. So, fields immediately behind the wall remain submerged during rains while those at a higher level upstream retain enough moisture for a good monsoon crop. Come November, and if surface water is still in the catchment, sluice gates are opened in the dam to drain out excess water downstream.

“Khadeens” irrigate thousands of hectares in the desert. But individual households only own small plots, so a “khadeen” is like a commune with an entire community able to support their agriculture-based livelihood. However, with the arrival of irrigation through borewells, and canal water, many of these khadeens are in disrepair. While both “khadeens” and “nadis” are shallow structures that store water, how does one differentiate between the two?

“Khadeens” are located on farmlands with occasional trees, while “nadis” usually do not have any trees. “Nadis” can also carry water year-round, while “khadeens” are emptied at the start of winter to allow a second crop from residual moisture. Both these structures can add to the area's resilience against dry climate when functioning well.

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