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VANA PREMI

Nav Se Nawvey Saal Tak Ke Bachhon Ka Saathi

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Vanapremi wishes it's readers a happy Sharad Navaratri

FRA & Wildlife Special issue

Sub-Adult K1 Tigress, Keslaghat, Tadoba

Photo credit : Indaram Nageshwar Rao

JOURNAL OF THE ASSOCIATION OF RETIRED FOREST OFFICERS, TELANGANA & ANDHRA PRADESH
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- A wholly-owned, financially robust State Government enterprise, engaged in the large-scale establishment of plantations to meet the demands of the wood-based industries.
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- The TGFDC has also developed urban parks at Lalgadi Malakpet (Vanadrushyam), Thumkunta (Veduru Vanam), Gowdelli (Chandanavanam), and within the Chilkur Reserve Forest (Forestrek Park).
- The TGFDC has introduced new commercial species within the Regional Ring Road region, including Seethaphal, Sandalwood, Red Sandalwood, Rosewood, Teak, and *Casuarina Junghuhniana*, among others.
- Corporate Social Responsibility (CSR) Initiatives 2021–2025: Empowering lives through the distribution of three-wheeler scooters to the differently-abled, support to schools with sports kits and furniture, and establishment of modern pre-fab health sub-centers — driving inclusive growth with care, commitment, and compassion.
- Eco-Tourism projects have been launched at various locations under the brand name of "Deccan Woods & Trails".

Smt. Sunita M. Bhagwat, IFS
Addl. Principal Chief Conservator of Forests
Vice Chairman & Managing Director (FAC)
Telangana Forest Development Corporation Ltd.,
(A Government of Telangana Undertaking)

VANAPREMI

Vol. : 26 **OCTOBER - 2025** **No.10**

An English monthly on forestry, wildlife, environmental issues, and topics of general interest that blends in-depth knowledge with engaging content for all age groups.

Editor : Dr. Kota Tirupataiah

THE ASSOCIATION OF RETIRED FOREST OFFICERS
Telangana & Andhra Pradesh (Regd. No.557/1990)

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Mobile: 88977 28528

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From the Editor's Desk...

Dear Readers, Namasthe.

By the time this issue is in your hand, SharadNavaratri&Vijayadashami would have just been over. Still, we from the Editorial Board of Vanpremi wish you a Happy Dashehra.This issue focuses on two core and special issues of forestry-the forest area and the Wildlife in it. It seems on both counts we are at a very critical juncture.

The Forest Rights Act (FRA), essentially an act with a 'sunset clause', seems to be going in the way of "no sunset", an unending high-way for diverting forests for non-forest purposes, over-riding even the 'saviour act' i.e. The Forest Conservation Act. A saying goes that being 'holier than the King' is not good. But, when certain act that is essentially against 'our entire common future', is taken up, then raising voice of concern seems rational. An elaborate special article on the FRA by Sri.P.K.Jha details out the problem and the efforts required to be taken. A group of retired IFS officers have launched an 'Appeal to all serving foresters'urging them to be bold and use the provisions in the FRA act itself to save forests and Wildlife. They also offer handholding support.

October 2-8th is observed as the Wildlife Week. A host of articles on conservation, breeding, preservation of wildlife, Wildlife forensics, Wildlife Photography, Human-Wildlife Harmony, Observer's experiences from a Machan and a road block at midnight, Travails of Tigress Zeenat, what if Birds could Speak, and a caution that wildlife areas are not for 'casual stroll',form part of our Wildlife coverage.

Notwithstanding the efforts to save and conserve reserved/protected forests, it is also increasingly realized that green cover has to be promoted and protected 'outside forest areas'. A very analytical article on 'Trees outside forests ', titled 'beyond forest boundaries' by Sri.R.K.Sapra brings out this aspect in all its scope.Energy sustainability is one of the key areas for future as every development effort requires energy and that too sustainable energy. A recent invention has been the technology of 'small nuclear reactors'. Sri.B.K.Singh explains the details of this technology in a very simple and informative way.

It was a pleasure to discover that one of our colleagues has just reached 'Ninety Nine' Years. Sri.K.Buchiram Reddy and the association/Vanapremi members paid a visit to the home of Sri.Raja Reddy. The host was pleasantly surprised. The visitors were treated to a nice hospitality by the members of Sri.Raja Reddy's family.

Legal Notes, Green Quiz continue to inform and educate the 'enthusiastic' seekers.

The center spread has pictures from the 109th General Body meeting of the Association of the retired forest officers of Telangana& Andhra Pradesh, Pictures from the Martyrs' Day celebrations from Telangana and Andhra Pradesh, pictures from the Digital APO Workshop for Southern region and pictures from the visit to the home of Sri.Raja Reddy.

Dr.K.Tirupataiah
Editor

FOREST RIGHTS ACT:A VICTIM OF POLITICAL PROMISES AND NGOs' ACTIVISM

P.K.Jha, IFS (R)

Parliament has legislated the historic Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act 2006 (FRA) to recognize and vest forest rights on forest lands,only into specifically defined a) Forest Dwelling Scheduled Tribes (FDST)and b) Other Traditional Forest Dwellers (OTFD), and their communities who were denied the same for generations.

It is an acknowledged fact that in the process of declaring reserve forests, in some cases, traditional rights of some individuals and communities could not be recognized and settled partly due to the failure of state administration to give statutory publicity/notice and also due to ignorance and illiteracy of people living in interior areas. After passing of Forest Conservation Act in 1980, states, custodians of forests, have been deprived of their discretion to divert any forest land for such legitimate traditional claims without prior approval of Govt. of India,as it involves compensatory non-forest lands and other statutory payments. Forest Rights Act 2006 has been brought in by Parliament with thenoble intention of recognizing such legitimate forest rights into individuals who have been traditionally residing or cultivating forest lands for livelihood and communities which have been collecting MFP and traditionally protecting and managing forests for sustainable use.

But unfortunately, lately FRA has become avictim of political promises to distribute forest lands even to ineligible post 2005 forest encroachers and alsoavictim of activism of NGOs to spread their area of influence and recognition. Recognition of Forest Rights especially Individual Forest Right (wrongly commonly called as Patta) and Community Forest Resource Rights (CFRR) into ineligible claimants are posing serious threats to protection, conservation and sustainability of forests and wildlife.

There are (13) types of forest rights listed under Sec.3(1) of FRA 2006 and admissible evidences to claim forest rights are listed under Rule 13. Claimant individual/community hasto produce minimum two evidences out of about forty evidences listed under Rule 13. In addition, under Sec. 3(2), total 13 types of community infrastructures like Anganwadi, school, dispensary, roads, tanks etc. can be taken in avillage/habitation subject to 1 Ha for each facility involving felling of less than 75 trees per ha, in relaxation of FCA, 1980.

For recognition of any of the (13) types of forest rights listed under Sec. 3(1) including IFR (patta) and CFRR, claimant individual/community hasto establish occupation of claimed forest land before 13.12.2005. Forest right claims are processed through Gram Sabha (GS), Sub Divisional Level Committee (SLDC) and finalized by District Level Committee(DLC) headed by theDistrict Collector. Forest officers are associated at all three levels of committees. Forest officers are duty bound to give their written remarks on admissibility of claims before GS/SLDC/DLC.

Proceedings at GS/SLDC/DLC are quasi-judicial as per reading of the Act/Rules and clarifications issued by theMinistry of Tribal Affairs, (MoTA), Govt of India and Nodal agency under FRA. In case of any disagreement between evidences produced and remarks given by Forest Officials and those produced by Claimant individual/ community, GS/SLDC/DLC are under legal quasi-judicial obligation to pass resolutions/speaking

orders while accepting or rejecting claims.

Rules under FRA,2006 were framed and notified on 01.01.2008. Subsequently, major amendments have been carried out in therulesthrough amendments in 2012 and legal framework has been deliberately diluted to minimize relevance of satellite imageries, minimize role of foresters, and an elaborate legal framework has been put inplace i.e. a new distinct type of forest rights called "Community Forest Resource Rights" (CFRR). Under IFR (patta), claimant can claim upto 4 Ha of forest land for self-cultivation or habitation and this title is heritable but non-transferable and legal status of land remains as forest land.

For claiming individual forest rights, claimant has to produce minimum two evidences out of approx. forty evidences listed under Rule 13(1) including oral statement of village elders to be recorded in writing, which is mostly being misused lately. Initially, evidence of villagers' statement was included in 2007 Rules to help claimants who had been traditionally cultivating forest land without any document/record. When Rules were initially framed in 2007, it was possible for village elders to certify claims of pre 2006 cultivations with reasonable accuracy. Most of the states took special drive during 2008 -2010, on the instructions of MoTA, to identify claimants and claims were mainly considered on the evidence of satellite imagery, and oral evidences of village elders were used only in doubtful cases. On account of strict compliance and adherence to satellite imageries by forest officials, genuine claims were admitted and about 50% of the ineligible claims were rejected. MoTAhas been interested in giving maximum titles and evidence of satellite imageries was coming in the way of helping ineligible claimants on political pressure in accepting post 2005 forest encroachments at state level. Deliberate efforts have been put inby MoTAto diluteevidence bysatellite imageries, by delegated legislation as detailed in below.

Satellite imageries are admissible evidence under Rule 13(1) (a) which reads as follows:-

"13. Evidence for determination of forest rights.-

(1) The evidence for recognition and vesting of forest rights shall, inter alia, include -

(a) public documents, Government records such as Gazetteers, Census, survey and settlement reports, maps, satellite imagery, working plans, management plans, micro-plans, forest enquiry reports, other forest records, record of rights by whatever name called, pattas or leases , reports of committees and commissions constituted by the Government, Government orders, notifications, circulars, resolutions;"

Efforts have been put to dilute relevance of satellite imageries and other documents available with Forest Department and admissible under Rule 13 (1)(a) as discussed above by incorporating new Rule 12 A(11) through 2012 amendments, which reads as follows:-

"12 A. Process of recognition of rights.-

(11) The Sub-Divisional Level Committee or the District Level Committee shall consider the evidence specified in rule 13 while deciding the claims and shall not insist upon any particular form of documentary evidence for consideration of a claim.

Explanation: 1. Fine receipts, encroacher lists, primary offence reports, forest settlement reports, and similar documentation by whatever name called, arisen during prior official exercise, or the lack thereof, shall not be the sole basis for rejection of any claim.

2. The satellite imagery and other uses of technology may supplement other form of evidence and shall not be treated as a replacement."

MoTA, thedesignated nodal agency under FRA, has tried to further dilute and create confusion

among field foresters by issuing following further clarification, though executive instructions, which goes even beyond 2012 amendments as contained in MoTALr. Rc. No. 23011/32/2010-FRA (Vol.II-pt) Dt. 12.7.2012.

"Use of technology, such as, satellite imagery, should be used to supplement evidences tendered by a claimant for consideration of the claim and not to replace other evidences submitted by him in support of his claim as the only form of evidence"

Above distorted clarification issued by MoTA gives a wrong impression as if satellite imagery can be produced only by claimant and that too to supplement his claim over forest land, not to reject/contradict his claim. FRA Act or Rules donot stipulate that evidences listed under Rule 13 shall be only produced by the claimant individual/community. All evidences listed under Rule 13 can be used by the claimant as well as by Forest Department or any other agency/person to challenge admissibility of evidence rendered by claimant individual/community. On account of above dilution of Rules and deliberate confusion created by MoTA, an impression has been created among foresters that satellite imageries are not primary evidence butsupplementary in nature and theycannot be used to reject ineligible claims.

Satellite imageries are admissible evidence under Rule 13(1)(a) read with Rule 12 A(11) as discussed above. Forest officers are duty bound to give their remarks on admissibility of claims in writing before GS/SLDC/DLC. In case of failure of GS/SLDC/DLC to consider remarks given by the forest officers and accepting ineligible claims without passing any speaking orders/resolutions while acting as quasi-judicial authority, foresters must register their dissent on GS/SLDC/DLC minutes of meeting and report the matter to the next level of Committee. In case of overlooking by DLC, theDFO must write to thePCCF &HoFF for taking up theissue with theState LevelMonitoring Committee under FRA headed by theChief Secretary and report thematter to MoEF and MoTA, depending upon the situation.

Most of the states took special drives and gave recognition to the eligible Individual Forest Rights (Pattas) after promulgation of FRA Rules on 1.1.2008. Granting Individual Forest Rights (Patta) under FRA, however, encouraged fresh forest encroachments and political parties have been promising fresh forest rights/pattas especially before elections.

States filed written affidavits before hon'ble Supreme Court in W.P.(Civil) No 50/2007, 109/2007 filed by Wildlife First and others including Sri J.V.Sharma, rtd. IFS from united A.P. and states claimed to have successfully implemented IFR (Patta) and granted titles.

Some state administrations, under directions of political executives, are helping post 2005 forest encroachers by convening Gram Sabha/ SLDC/DLC meetings repeatedly for IFR(Patta) by exploiting lacuna in Rules framed under FRA. As per procedure contained under Rules, Gram Panchayat is supposed to conduct Gram Sabha meeting at habitation level (not at Panchayat level asunder PR Act) to ensure better participation of villagers. Gram Sabha have to elect 'Forest Rights Committee' among villagers ensuring statutory participation of Schedule Tribes and women and give three monthsoftime to invite applications from claimants which can be extended without any time limit by just assigning reason for such extension;quorum of Gram Sabha meeting was 2/3rd in 2007 Rules which has been reduced to one half of all members of Gram sabha in 2012 amendments, and pass resolutions by majority. All such elaborate legal framework has been put in place to ensure that no eligible claimant is left from applying at village level as and when meeting of Gram Sabha is called for IFR(Patta) and claims are processed and approved in a transparent manner. But some state administrations under

political mandate are misusing Rules, as it does explicitly prohibit calling of Gram Sabha meeting for second or third time for the purpose of re-identifying claimants under IFR(Patta). FRA Rules enables calling of Gram Sabha meetings any number of times to consider all (13) types of forest rights listed under Sec.3(1) including CFR/CFRR and especially every time any of (13) community infrastructures listed under Sec.3(2) like school, dispensary, Anganwadietcis proposed, in relaxation of FCA 1980. States are misusing the above loopholein FRA rules and areconducting Gram Sabhas repeatedly for Patta distribution, especially before elections.

In recent past, Maharashtra, A.P. and Telangana granted Individual Forest Rights (Patta) additionally on lakhs of acres of forest lands in a short span of one month by taking fresh special drives in thename of left over claimants, even after submitting written affidavit before hon'ble Supreme Court. State Administration under political mandate are helping post 2005 forest encroachers and areapproving claims mainly based on themost susceptible oral evidence of village elders certifying forest land occupations before 13.12.2005, even after more than 15 years after thecutoff date and by discarding the most scientific and impartial evidence of satellite imageries admissible under Rule 13(1) read with Rule 12 A (11) of FRA Rules 2007.

After claiming successful implementation before Hon'ble Supreme Court, additional IFR (Patta) given in recent past in Maharastra, Andhra Pradesh and Telangana during a short span of one month, presumably under political mandate, is as follows:-

STATE	MONTH	ACRES	MONTH	ACRES	ADDITIONAL	% INCREASI OVER PREVIOUS DISTRIBUTIONS
MAHARASTRA	JAN.19	2,66,329	FEB.19	3,92,928	1,26,599	50%
A.P.	DEC.21	2,39,554	JAN.22	4,36,606	1,97,052	82%
TELANGANA	JUNE 23	3,10,916	JULY 23	6,69,689	3,58,774	115%

Probably for the first time in the country, forest field officers in Telangana in all forest divisions gave claim-wise written remarks on admissibility of claims based on satellite imageries and field inspections to SLDC/DLC. But theirwritten remarks have been overlooked by DLC by misinterpretation of clarifications issued by MoTA regarding relevance of satellite imageries and evidences to be produced by claimants. Patta certificates have been issued with facsimile signatures of theCollector/DFO/DTWO against specific instructions issued by MoTA not to use facsimile signature.Based on the information furnished under RTI by thePCCF office and Tribal Welfare Dept., DLCs have approved anadditional 3,58,760 acres to 1,33,301 claimants against 1,44,388 acres covering 67,192 claims recommended by forest field officers. The additional 2,14,388 acres have been given patta by discarding remarks of Forest Department during July 2023, before state elections in December 2023. Two NGOs namely 'Forum for Good Governance' (FGG)headed by Sri P.M.Padmanabha Reddy, IFS(rtd) and Sri Satish Kumar Reddy have filed two PILs before hon'ble Telangana High Court and FGG have also filed acomplaint before CEC for violation of FCA 1980 on account of 2.14 lakhs acres ofexcess land distributed under thedisguise of FRA and thematter ispending.

In recent years, post 2005 forest encroachers

are misusing immunity provided under Sec.4(5) against any efforts put by Forest Department to evict them under Indian/State Forest Acts. Sec4(5) of FRA gives protection against any forceful eviction from forest lands till claimant'sapplication is finally decided by the DLC under FRA. Section 4(5) of FRA reads as follows:-

"Sec 4(5)- Save as otherwise provided, no member of a forest dwelling Scheduled Tribe or other traditional forest dweller shall be evicted or removed from forest land under his occupation till the recognition and verification procedure is complete."

Sec.4(5) was incorporated under FRA to protect all claimants/applicants from date of his application before Gram Sabha till final decision by DLC. But state governments are conducting Gram Sabha for Individual Forest Rights (Patta) by conducting special drives from time to time depending upon political convenience and as such recognition of IFR(Patta) has become a continuous unending process. Even after convening of Gram Sabha and recognition and issuance of IFR(Patta) to all eligible claimants'preferred before Gram Sabha, new applications are being filed endlessly in thehope of such exercisein futurebased on promises made by political parties. Recently, misuse of Sec.4(5) by post 2005 forest encroachments has to come to notice in Telangana, when some recent forest encroachers as per satellite imageries have approached thehigh court against eviction notice issued by Forest Range Officers and obtained interim stay orders; and same may be happening in other states also.

The Second most misused forest rights under FRA is 'Community Forest Resource Rights' incorporated as a separate distinct forest rights under Rules through 2012 amendments by MoTA. Prior to 2012 amendments to FRA rules, only two statutory applications were provided- 'Form- A' for Individual Forest Rights (Patta) and 'Form-B' for all remaining Community Forest Rights (CFR) listed under Sec.3(1) of FRA Actand titles were issued in two statutory forms- 'Annexure-II' for IFR (Patta) and 'Annexure-III for CFR'.

MoTA carried out drastic amendments in FRA Rules 2007 in the year 2012. While downgrading importance of themost scientific evidence of satellite imagery and reducing therole of foresters, MoTA introduced a distinct forest right called 'Community Forest Resource Rights' (CFRR). Once CFRR is recognised and title is issued, responsibility of protection, regeneration and management of given forest lands goes into the hands of Community/Gram sabha and Forest Department gets relegated to anadvisory role. In 2012 FRA Rules amendments, elaborate legal framework has been put in place to recognise and operationalise CFRR. Community/Gram Sabha is supposed to prepare a 'Community Forest Management Plan' keeping needs of thecommunity into consideration duly taking theworking plan into consideration and modifying as per local needs. Separate application form in 'Form-C' and separate format for CFRR title has been prescribed under 'Annexure-IV' exclusively for CFRR.

The most damaging amendment has been incorporation of Rule 12 B (3) and (4) relating to CFRR, which reads as follows:-

"(3) The District Level Committee shall ensure that the forest rights under clause (i) of sub-section (1) of section 3 relating to protection, regeneration or conservation or management of any community forest resource, which forest dwellers might have traditionally been protecting and conserving for sustainable use, are recognized in all villages with forest dwellers and the titles are issued.

(4) In case where no community forest resource rights are recognized in a village, the reasons for the same shall be recorded by the Secretary of the District Level Committee."

By incorporating new Rule 12 B (4),it has become

mandatory for DLC, headed by theDistrict Collector to record reasons in DLC resolutions, if CFRR is not recognized to any Gram Sabha/village/habitation. The author is of the opinion that newly incorporated rule is against the objective and preamble of FRA Act 2006 passed by the Parliament. The objective of the FRA Act passed bytheParliament was to recognize forest rights in individual/community which have been traditionally enjoying without legal recognition. Parliament never had intentionof creating any new forest rights which werenot being enjoyed traditionally.The intentionof Legislature in respect of CFRR becomes clear by reading of Sec.3(1)(i) which reads as follows:-

"right to protect, regenerate or conserve or manage any community forest resource which they have been traditionally protecting and conserving for sustainable use;

It is evident that the intentionof theParliament was to confine CFRR to only those community/ Gram Sabha/Village which has been traditionally protecting, conserving and managing claimed forest land for sustainable use, not to extendCFRR to all communities/Gram Sabhas. The Ministry of Tribal Welfare by incorporating Rule 12 B (4), through amendments carried out in 2012 under delegated legislation, has not only gone beyond thescope of FRA Act passed by theParliament but simultaneously put forests and wildlife under great threat by handing over protection and management responsibility to such Gram Sabha/ Communitywhich are not having any previous experience and expertise in scientific forest management and thereby endangering ecological security of the country.

Regarding applicability of FRA in protected areas, once CFRR is recognized under Sec.3(1)(i), Gram Sabha/Community will have statutory right to protect, regenerate and manage such specified earmarked forest land area falling under National Parks and Sanctuariesalsoand Forest Department will have only anadvisory role. For declaring any forest area inviolate for conservation of wildlife in protected areas in National Park/Sanctuary falling under CFRR, there is anelaborate procedure to declare 'Critical Wildlife Habitat' prescribed under Sec. 4(2)(a) to (e) under FRA and the processis so complex that as per information available till now, no 'critical Wildlife Habitat' has been notified under Sec.4(2) of FRA in any state.

Among foresters there is lot of confusion about applicability of FRA in Joint Forest Management areas. Communities in forest areas falling under JFM are only partner with Forest Department in themanagement of forests as per executive instructions issued by concerned state government and theforest land always remained under exclusive occupation of Forest Department not with theCommunity. JFM Committees will not be eligible for CFRR under FRA, unless it is established that Community was in occupation of claimed forest area before 13.12.2005 required under Sec. 4(3) and Claimant Community has been traditionally protecting, conserving and managing claimed forest land for sustainable use as stipulated under Sec.3(1)(i) of FRA Act 2006.

As per MPR posted on the website of MoTA, till now CRFF has been recognized over 1.8 lakh acres of forest lands. As per a report published by a group of NGOs in 2016 under theaegis of OXFAM-India,they identified state-wise total of8.50crore acres of forest lands potentially eligible for CFRR, excluding J&K and N-E states, which comes to about 55 % of national forest areas. Handing over 55% of national forests in the hands of untrained and inexperienced Gram Sabha/community for protection and management of forests including protected areas will not onlyaffect 55% forests but may alsoadversary affect theremaining 45% forests under protection and management of traditionally trained and expert foresters. NGOs have been actively working with MoTA and pursuing expansion of CFRR for their vested interest of increasing their area of operation, influence and

credibility to facilitate international fundings/ recognition. Recently in Chattishgarh state, about 9.50 lakh acres were given under CFRR in a short span of 2-3 months before state elections. Some NGOs,especially coming from other state,are pressing hard to hand over management of forests to Communities/Gram Sabha and they took strong objections to even naming Forest Department as Nodal Agency only for CFRR, which is technical in nature and required technical guidance of trained foresters, and state govt have to withdraw such letter.

Unfortunately, so far 1.80 crore acres of forests have been given under CFRR without adhering to Sec.4(3) of FRA stipulating occupation of claimed forest by community before 13.12.2005 and without satisfying requirement of Sec.3(1)(i) prescribing protection, regeneration or management traditionally by the claimant communities for sustainable use. Forest Departments have failed in their legal duty of giving remarks in writing before GS/SLDC/DLC when such ineligible claims are being admitted. Most of such 1.80 crore acres of forests have been traditionally under occupation, protection and management of Forest Department not communities.

In conclusion, it can be inferred that theobjective of theParliament while passing FRA was to restrict recognition of forest rights only to those individuals and communities who were occupying claimed forest lands before statutory cut-off date of 13.12.2005 and were enjoining certain rights traditionally, though not legally recognised. MoTA, political parties and NGOs are trying to give pattasto post 2005 encroachments by discarding satellite imageries and relying solely on themost susceptible evidence of village elders' statement, even after two decades of cut-off date of 13.12.2005; and transferring protection and management rights to all Gram Sabha/villages under CFRR without adhering to Sec.3(1)(i) and Sec.4(3). Unfortunately, limited entitlement as contemplatedunder FRA is being converted into universal entitlement endangering ecological security of the country. In such a situation, it becomes legal, moral and professional responsibility of all foresters from beat guard to DFO level to ensure strict compliance to the provisions of FRA and Rules framed thereunder. They must give written remarks on admissibility of claims made under FRA and give written dissent, in SLDC/DLC minutes of meetings, if remarks given by them are not consideredor arerejectedby SLDC/DLC, without passing any speaking orders/ resolutions in their quasi-judicial responsibility.

In view of widespread news of misuse of FRA, a group of senior ex-IFS officers retired from the cadre of DG, ADG, HoFFs, CWLW, PCCF, APCCF from different states have formed a peer group and it is working towards educating forest field officers on different aspects of FRA and measures to prevent its misuse. The group has prepared a e-handbook titled "FRA-Foresters Guide"in English, Hindi and Telugu containing detailed guidance, interpretation of Act/Rules, FRA Act/ Rules and important clarifications issued by MoTA for use of forest field officers. The group has also recently prepared a one page appeal to foresters on misuse of FRA and its prevention in English and 10 other Indian languages for easy understanding of forest field officers in the country.TheGroup has also prepared a repository on FRA containing FRA Act, Rules, orders of hon'ble Supreme/High courts on FRA, clarifications issued by MoTA, press reports from different states, representations by the group to Hon'ble PM, MoEF Minister, MoTA minister, state Prl. Secretaries, PCCF &HoFFetc in a sharable folder on Google Drive named as"FRA for foresters" which can be accessed by any serving orretired foresters by clicking on the link given below.

https://drive.googlecomdrivefolders/1L5N4EgfbGJwC2aV-DOAQkQB1YgLEiGFX?usp=drive_link

SOME SUGGESTIONS TO ENSURE STRICT COMPLIANCE TO FRA 2006 :-

1. MoTA to issue instructions/amend rules prohibiting receipt of fresh applications for IFR(Patta) before Gram Sabha in those villages/ habitations where process of identification and distribution of IFR (Patta) has been completed once, without specific prior written permission given by MoTA, and based on detailed reasons assigned by state govt in any exceptional circumstances.

2. MoTA to give some definitive time frame to states wherever exercise has not been taken upto complete identification and distribution of IFR(Patta)Pattas by state govt without giving any future extension.

3. MoEF& CC to verify IFR(Patta) claims admitted after 2016 when states submitted written affidavit in W.P.(Civil) 8/2008, 109/2008 with reference to satellite imageries to ensure no diversion of forest landstook place in violation of FCA 1980, to post 2005 encroachers.

4. MoTA to provide funds to state govt. to demarcate IFR(Patta) already granted on ground with pillar/stone to help poor claimants to enjoy his forest rights and to prevent any further encroachment.

5. MoTA to issue clarification stating that satellite imageries are admissible evidence under Rule 13(1)(a) read with Rule 12 A(11).

6. MoTA to issue clarification stipulatingpassing of speaking orders by quasi-judicial authority i.e.GramSabha/SLDC/DLC wherever forest dept or any other dept or person produces admissible evidence challenging evidences produced by claimant individual/community.

7. Foresters to insist on critical scrutiny of themost susceptible evidence of village elders' statement certifying occupation of claimed forest land, after 20 years of cut- off date.

8. Foresters to give written remarks on each claim on its admissibility or otherwise before GS/ SLDC/DLC.

9. Foresters to give written dissent in GS/SLDC/ DLC resolutions wherever their remarks are not considered or rejected without assigning any speaking orders.

10. Foresters to give specific remarks wherever unfounded claim is made by Community for CFRR claiming occupation of given forest lands before 13.12.2005, as required under Sec4(3) of FRA 2006.

11. Foresters to give specific remarks wherever unfounded claim is made by Community for CFRR claiming traditional protection, conservation and management of given forest lands before 13.12.2005, as required under Sec. 3(1)(i) of FRA 2006.

12. Foresters to produce admissible evidences/ documents listed under Rule 13(1)(a) before SLDC/DLC to establish continued occupation of forest lands both before and after 13.12.2005 wherever unfounded claims are preferred under Community Forest Resource Rights.

13. Foresters to produce admissible evidences/ documents listed under Rule 13(1)(a) before SLDC/DLC to establish continued protection, conservation and management of forest lands before 13.12.2005 wherever unfounded claims are preferred under Community Forest Resource Rights.

14. MoEF& CC to issue instructions to all state forest departments to evict encroachments within a specified time frame.

The author is a former PCCF (HoFF) of Telangana State and presently the President of the Association of retired forest officers of Telangana& Andhra Pradesh. M-98499 04774

APPEAL TO FORESTERS TO PREVENT MISUSE OF Forest Rights Act 2006 ESPECIALLY INDIVIDUAL FOREST RIGHTS (PATTA) & COMMUNITY FOREST RESOURCE RIGHTS

1. Thirteen types of 'Forest Rights' are listed under FRA's Sec.3(1) while FR Rule 13 contains evidences admissible for recognizing & vesting FRs in eligible claimants.

2. Foresters are duty-bound as committee members to give their remarks on the admissibility of claims preferred under FRA.

3. For all types of forest rights including Community Forest Resource Right (CFRR), the claimant (individual/community) must establish occupation of the concerned forest land before cut-off date (13.12.2005) as is mandated by Sec. 4(3) of the Act. For CFRR, this condition along with that under 3(1)(i) must be fulfilled for the 'community forest resource' defined by Sec. 2(a).

4. It may be noted that normally the FD has been in occupation of forest lands in case of RF/PF etc. Exceptions may be the lands under encroachment.

5. Satellite imageries are admissible under Rule 13(1) (a) read with Rule 12 A (11). As DLC/SDLC members, Foresters must record their clear written remarks on admissibility/ non-admissibility of claims. They must be careful especially when claimant produces some most susceptible evidence like statement of village elders after two decades of the cut-off date (13.12.2005) now.

6. Foresters shall be careful while handling CFRR claims under Sec.3(1)(I). Once CFRR is recognised, right to protect, regenerate,conserve or manage such forest will permanently vest in Community.

7. For recognition of CFRR, insist on production of admissible evidence by community to establish their claim of occupation of claimed forest lands prior to 13.12.2005 as required under Sec.4(3) of the Act and foresters must give their remarks on admissibility of such evidence produced.

8. Foresters must produce before GS/SDLC/DLC all relevant records/documents 14. listed under Rule 13(1) (a) like maps, satellite imageries, working plans, micro plans, forest enquiry reports, other forest records which includes RF/PF notifications, inspections notes, diary, records of conservancy works taken up etc. to establish continued occupationof forests before 13.12.2005 by Forest Department.

9. Simultaneously, Foresters should also produce relevant evidences listed above under Rule 13(1)(a) to establish protection and management of forests being carried out traditionally by Forest Department against any unfounded claims made by claimant community 16. under Sec. 13(1) (i) of FRAAct 2006.

10. Forest lands under JFM may not qualify for CFRR as these forest lands are under Joint Management with community but has been always under exclusive occupation of FD.

11. Please note that for forest rights of habitation/self-cultivation under Sec. 3(1)(a), concerned forest land's occupation as on 1-1-2008 is also mandatory as per Sec.4(6) in addition to 13.12.2005 under Sec.4(3).

12. Sec.6 of the Act directs that 'nature' and 'extent' of forest rights should be determined. While recognising community forest rights under Rule 3(1) over minor forest produce, the description of MFP along with quantity traditionally collected by the claimant/s must be specified in the forest right's title document. This will help sustainable management of the forest resource.

13. Proceedings at Gram Sabha, Sub-Divisional Level Committees and District Level Committees are quasi-judicial in nature from reading of the ACT and Rules and clarification issued by MoTA.

14.In case of any contradiction between written remarks given by forest officials and evidences produced by claimant individual or Community, GS/SLDC/DLC is under legal duty to pass speaking order / resolution considering all evidences while accepting or rejecting claims as quasi judicial authority.

15. If GS/SLDC/DLC fails to discharge its quasi judicial function and wishes to pass resolution without examining remarks of the forester, he must record his dissent in resolutions as well as report to next higher committee or to State Level Monitoring Committee through PCCF.

16.Foresters may note that if habitation/self-cultivation rights or CFRRs get recognised due to failure of the forester to point out department's occupation of the given forest land before 13.12.2005, the forester, as custodian of forests, may primarily be held responsible, if any enquiry/investigation is orderedat a later date.

17. Further detailed information on FRA can be obtained by clicking on the link below: -

https://drive.googlecomdrivefoders/1L5N4EgfbwC 2aVOAQkQB1YgLEiGFX?usp=drivelink.

-Issued by a group of retired IFS officers

Why is protecting, preserving, and conserving wildlife needed?

Part 4: Role played by Genetics and Population Dynamics in Conservation Breeding

Dr.Hemanth Kumar R, IFS (R)

Commonly used Genetic terminology in Conservation Breeding

When we scientifically manage our in-house populations of endangered animals for conservation breeding, aiming to release them back into the wild, we encounter several essential terms associated with sound breeding. Zoo managers participating in the Conservation Breeding of Endangered Animals must know about population genetics and terms related to the programme; a brief on them is as follows:

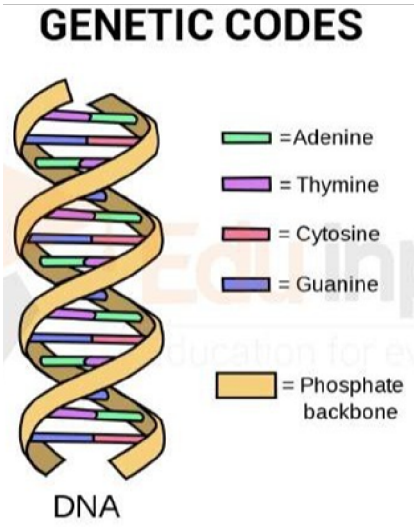


Photo Source: www.eduinput.com

Population genetics began as a reconciliation of Mendelian inheritance and biostatistical models. Natural selection will only cause evolution if a population has enough genetic variation. Before the discovery of Mendelian genetics, one common hypothesis was blending inheritance. However, genetic variance would be rapidly lost with blending inheritance, making evolution by natural or sexual selection implausible.

The Hardy–Weinberg principle provides the solution to maintaining variation in a population with Mendelian inheritance. According to this principle, the frequencies of alleles (variations in a gene) will remain constant in the absence of selection, mutation, migration, and genetic drift.

The following essential step was the work of the British biologist and statistician Ronald Fisher. In a series of papers starting in 1918 and culminating in his 1930 book The Genetical Theory of Natural Selection, Fisher showed that the continuous variation measured by the biometricians could be produced by the combined action of many discrete genes and that natural selection could change allele frequencies in a population, resulting in evolution.

In a series of papers beginning in 1924, another British geneticist, J. B. S. Haldane, worked out the mathematics of allele frequency change at a single gene locus under a broad range of conditions. Haldane also applied statistical analysis to real-world examples of natural selection, such as peppered moth evolution and industrial melanism, and showed that selection coefficients could be more significant than Fisher assumed, leading to more rapid adaptive evolution as a camouflage strategy following increased pollution. (Source: Bowler, Peter J. (2003). Evolution: the history of an idea (3rd ed.).Berkeley: University of California Press. pp. 325–339. ISBN 978-0-520-

23693-6 andLarson, Edward J. (2004). Evolution: the remarkable history of a scientific theory (ModernLibrary ed.). New York: Modern Library. pp. 221–243. ISBN 978-0-679-64288-6.)

The American biologist Sewall Wright focused on combinations of interacting genes and the effects of inbreeding on small, relatively isolated populations that exhibited genetic drift. In 1932, Wright introduced the concept of an adaptive landscape and argued that genetic drift and inbreeding could drive a small, isolated subpopulation away from an adaptive peak, allowing natural selection to drive it towards different adaptive peaks. Wright was credited for his Genetic Drift theory. Fisher, Haldane, and Wright's work founded the discipline of population genetics. This discipline integrated natural selection with Mendelian genetics, which was the critical first step in developing a unified theory of evolution.

In the backdrop of the above, some important terms that the conservation breeder occasionally comes across are given below:

1. Conservation breeding: This is the captive propagation of endangered species to maintain the genetic diversity and sustainability of animal populations for eventual reintroduction into their natural habitat.

2. Inbreeding refers to mating between related animals. You'd typically think of this as two animals from the same litter mating or a father mating with his female offspring. Unfortunately, inbreeding weakens the animals over time. Closely related animals are more likely to have poor genes in common, which makes those traits more prominent in the offspring. Inbreeding can happen in nature, but it's less common. Males usually leave their herd when they reach sexual maturity. Then, they go off to find new animals to start their own family.

Zoos prevent inbreeding by participating in breeding programs. They partner with other zoos to find animals of the same species with different family lines.

3. Line breeding is an inbreeding that people monitor carefully. It means you look for a common ancestor farther back in the line. If one animal's grandparent was the cousin of another animal's grandparent, then those two animals can mate safely. It's a way to keep the breed's purity without risking illness and weak bodies.

4. Outbreeding is a method of breeding unrelated animals of the same species, also called straight breeding.

5. The Coefficient of Inbreeding (COI) measures how inbred an individual is. Specifically, it is the probability that two alleles at any locus in an individual are identical by descent from a common ancestor of the two parents. A higher COI makes the traits of the offspring more predictable but also increases the risk of health issues.

6. Average/ Mean Inbreeding: Inbreeding is the breeding of closely related individuals. The degree to which an offspring is inbred is measured by its inbreeding coefficient 'f', which is the probability of receiving the same allele from each parent (i.e. the alleles are identical by descent). In managing captive wildlife populations, the objective is to retain the maximum possible genetic diversity; therefore, inbreeding avoidance is the strategy of choice.

7. Inbreeding depression is the reduced biological fitness that has the potential to result from inbreeding (the breeding of related individuals)—the loss of genetic diversity due to inbreeding results from a small population size. Biological fitness refers to an organism's survival ability and perpetuation of its genetic material. Inbreeding depression is often the result of a population bottleneck. Generally, the higher the genetic variation or gene pool within

a breeding population, the less likely it is to suffer from inbreeding depression. However, inbreeding and outbreeding depression can simultaneously occur. Inbreeding depression seems to be present in most groups of organisms but varies across mating systems. Hermaphroditic species often exhibit lower degrees of outcrossing species, as repeated generations of selfing are thought to purge deleterious alleles from populations.

8. Population Bottleneck or Genetic Bottleneck is a sharp reduction in the size of a population due to environmental events such as famines, earthquakes, floods, fires, disease, and droughts; or human activities such as genocide, speciocide, widespread violence or intentional culling. Such events can reduce the variation in the gene pool of a population; after that, a smaller population with a smaller genetic diversity remains to pass on genes to future generations of offspring. Genetic diversity remains lower, increasing only when gene flow from another population occurs or slowly grows with time as random mutations occur. This results in a reduction in the robustness of the population and in its ability to adapt to and survive environmental changes, such as climate change or a shift in available resources. Alternatively, suppose survivors of the bottleneck are the individuals with the most significant genetic fitness. In that case, the frequency of the fitter genes within the gene pool increases while the pool itself is reduced.

9. Genetic diversity, is the genetic variability present within species, is a product of the recombination of genetic material during inheritance and changes with time and space. However, sexual reproduction plays a pivotal role in maintaining genetic diversity. By giving unique offspring through the combination of parents' genes, sexual reproduction ensures the survival and adaptation of species.

10. Gene Diversity Retained: is the level of expected heterozygosity in a population and ranges from zero to one. It is the principal measure of genetic diversity in populations. In conservation breeding, the proportion of heterozygosity of the source population that currently survives in the living population is essential for maintaining the species' adaptive potential (adaptive potential is the ability of a species to adapt to changed environmental conditions).

11. Importance of Genetic Diversity

 Genetic diversity gives rise to different physical attributes in the individual and the capacity to adapt to stress, diseases and unfavourable environmental conditions.

 Environmental changes that are natural or due to human intervention led to natural selection and survival of the fittest. Hence, due to genetic diversity, the susceptible varieties die, and the ones that can adapt to changes will survive.

 Genetic diversity is essential for a healthy population, as it maintains different varieties of genes that might be resistant to pests, diseases, or other conditions.

 Genetic diversity reduces the recurrence of undesirable inherited traits.

12. Mean kinship is a measure of the importance of an animal. Animals with low mean kinship are genetically important. Animals with high mean kinship should be used less (or not at all). Mean kinship is calculated by that animal's kinship (relatedness) with the entire population (including itself). Therefore, mean kinships per animal are relative to the current population. This means that changes. For example, mean kinship will increase each time an animal produces progeny.

At this moment, mean kinship is one of the best conservation methods available. It surpasses old practices like maximum avoidance of inbreeding strategies. Though an individual's mean kinship

does not indicate the number of progenies an animal requires, it is clear which animals should not be ignored. After successful breeding and the loss of animals within the population, the mean kinship can be calculated again, identifying the genetically most essential individuals in the new situation.

The mean kinship coefficient between an animal and all animals (including itself) in the living, captive-born population. The mean kinship of a population is equal to the proportional loss of gene diversity of the descendant (captive-born) population relative to the founders. It is also the mean inbreeding coefficient of progeny produced by random mating. Mean kinship is also the reciprocal of two times the founder genome equivalents:

MK = 1 / (2 * FGE). MK = 1 - GD.

13. Studbooks: a record of the lineage of a wild animal bred in captivity.

14. Pedigree: a record of ancestry or purity of breed maintained in captive facilities.

15. Heterozygosity is a state of inheriting various forms of a specific gene from each of the parents. Various forms indicate fragments of the genes wherein the sequence differs, ranging from trivial segments of the gene to the most critical sections. Heterozygosity indicates that when each of your biological parents contributed copies of a specific gene, it was delivered so that the DNA sequences varied to an extent. At one junction, it could be different in the gene or could vary at various junctions in the same gene.

16. Per cent Ancestry Known: The accuracy of the analysis depends on the quality of data available; similarly, information on each animal's parentage is critical for genetic analysis of studbook databases, as genetic analysis in studbooks is carried out based on Mendelian genetics. Populations for which the percentage of ancestry known is less than 85% are said to be poorly managed, and genetic analysis is of limited accuracy.

17. Founder Genome Equivalents: The number of wild-caught individuals (founders) that would produce the same amount of gene diversity as the population under study. The gene diversity of a population is 1 -1 / (2 * FGE).

18. Effective Population Size (Ne): A key to the effective management of populations is their measure of adequate population size, usually represented in studbooks as the ratio of the effective size to the census size (Ne/N). The value of Ne can theoretically range from zero to about twice the population's census size. In most captive populations, however, it is rarely above N. The ratio of adequate population size to census size in captive populations ranges from 0.15 to 0.40 (average about 0.3), with species being.

19. Pairing Choices: Genetic analysis makes pairing recommendations (mating choices) for individual specimens. The preferred pairing choices produce the least related offspring with other members of the population, i.e. the pairings should result in lowered mean kinship values and have minimal inbreeding coefficients. Additional factors that govern the choice of mates are the feasibility of moving specimens between institutions and the age of the specimens chosen. Movement of individuals over long distances is avoided, while pairing between unproven breeders and old individuals is avoided.

In a nutshell, the genetic data helps in

- Species identification and taxonomy
- Population structure and connectivity
- Genetic diversity and adaptation

- Inbreeding and outbreeding management
- Adaptive management and climate change

The genetic data gives directions to the managers, mainly in fields like

- Integrating genomics and ecology
- Developing predictive models for conservation
- Applying machine learning and AI in conservation genetics
- Investigating epigenetic effects on conservation
- Enhancing collaboration between researchers and practitioners

Tools and Software: The following tools and software are available

- ArcGIS (geographic information system)
- R (statistical programming language)
- Python (programming language)
- GENELAND (landscape genetics software)
- Adegenet (R package for genetic data analysis)

For sampling, the following software is available

- R (sampling package)
- SAS (survey sampling procedures)
- SPSS (sampling procedures)
- ArcGIS (spatial sampling)
- QGIS (spatial sampling)

Author is a retired PCCF of UP Cadre/Member REC Chandigarh/Member Expert Committee CZA. M-94157 86586, Email:hravivarapu@yahoo.com

- D. Nagabhushanam, IFS (R)

On stepping-out in Protected Areas (in observance of National Wildlife Week : October 2nd to 8th):

Not meant for any Casual Strolls, nor meant to be the Photo Studios

"Stepping-out is not only dangerous in Protected Areas, it's illegal under Wildlife (Protection)Act,1972."

Dr B Raghotham Rao Desai, IFS (R)

Introduction:

Recklessness comes at a price when people get down in forest areas, they don't just put themselves in danger; they also risk the lives of accompanying forest-staff who may be forced to intervene, while endangering the fauna and also themselves, aswell—-inthepreviouscasesofsuch type, such provocations having unfortunately led to the beasts being labelled as 'dangerous' & eventually relocated or even killed; worse, such incidents go to the extent of damaging the fragile trust between humans and wildlife, undermining years of Conservation Efforts.

Stepping out of a vehicle in protected areas is not only dangerous, it's illegal under the Wildlife (Protection) Act, 1972—-getting down from vehicles, teasing, feeding, or disturbing wild animals in protected areas being a punishable offence (which can attract fines&even imprisonment), such areas being governed by strict rules for a reason: they are not to inconveniencetourists,butto ensure safety & conservation.

Wildlife habitats are not meant for casual strolls, nor are they photo studios—-sanctuaries are homes to tigers, elephants, leopards and other wild species: they being 'not controlled environments', but are meant to allow the wild animals to roaming freely: they being wild, their nature will be unpredictable & most importantly their behaviour will be wild.The elephants can be extremely dangerous if they feel threatened or provoked—-a sudden movement, aloudsound,or even the mere presence of humans on foot can trigger a charge.

Ground realities:

There are no barriers in the Sancturies, unlike zoo sand Safari-Parks—-only the thin shell of a vehicle, protecting people from a potentially deadly encounters—-still it is astonishingthateven after multiple warnings, people continue to step out of their vehicles for the sake of a selfies!

Despite repeated sensitization efforts by the Forest Department—-including warning sign boards, fines, and awareness campaigns, some of the visitors continue to treat tiger reserves, sanctuaries, and national parks, like amusement parks—-the desire to capture a perfect selfie or a dramatic video, having blended many to the very real dangers of the wild spaces. In the age of social media,the urge to get a 'perfectshot' has led to increasingly dangerous behaviour in forests—-tourists being routinely seen stepping out of their vehicles to take selfies, especially with wild elephants in the background: doing this without understanding the immense risk involved.

Highways and roads criss-crossmany Protected Areas—-while the Forest Department implemented

a night traffic ban in several reserves across the country, the day-movement continues to grow. Given the vast-stretches of roads that pass through such forests, it is practically impossible for the forest personnel to patrol every metre of every route at all times. The responsibility, therefore, lies not only with the enforcement of rules and regulations, but also with the public. No number of sign boards would stop someone who is determined to flout the rules for a photoop. Until people take personal responsibility for their actions, these risks will continue unabated—-and so will be the consequences: the onus, therefore, being on the public to act responsibly, and respect the laws that are in place, not just for wildlife protection, but for their own safety.

Conclusion:

During the 2nd week of August, 2025, a disturbing incident unfolded in the Bandipur Tiger Reserve (in Karnataka) that underscores the growing madness gripping some tourists visiting the protected areas—-a man, ignoring all caution & signboards, stepped out of his vehicle in the middle of the Reserve to take photos (and possibly a selfie) with a wild elephant in view. What followed was a terrifying attack by an elephant—-had it chosen to attack in full, it could have ended theman'slifein seconds.

The Bandipur incident could have ended inafatality—-serving as a wake-upcall for every tourist, traveller, and influencer. Wildlife Reserves exist for conservation, not for entertainment. When you enter a protected forest, you are a guest—-you are expected to follow the Rules,stayinsidethe vehicle and respect the wild: no photo or reel will be worth your life. No moment of vanity is worth undoing years of conservation work.

Let's travel responsibly, respect nature and let us remember that the forest is not our playground—-it is a home for countless species that deserve our caution, not our carelessness. The man severely injured in Bandipur is lucky to be alive—-many others in similar situations haven't been! The incident is not the first—-and if attitudes don't change—-it won't be the last, because next time we may not be fortunate.We should never disrupt the Rule of the Wild:by stepping out of vehicles (in Protected Forest Areas)people risk the irlives, while end angering the wild animals as well.

The author is a retired IFS officer of Karnataka cadre and the Chief Editor of 'VanaVikas', a quarterly magazine of the retired forest officers of Karnataka.

Anything beyond your capacity will necessarily change your capacity, because so long as everything is within your limits, you don't know what is beyond them. And everything concerning God-realisation is beyond limit. So in this way…. great suffering is beneficial

-Meher Baba.

Significance of Forensic science in wildlife protection

V.V.Hariprasad, Dy.CF (R)

Wildlife forensics is the distinctive field evolved for wildlife crime investigations. Proscribed trade of exotic wildlife species, poaching/ hunting animals, and trafficking products of animal parts and plants creates risk in flora and fauna conservation with ecosystem imbalance globally. Utilization of forensic science on illegal wildlife crimes integrates the knowledge on bioscience, environmental science, scientific techniques and procedures to analyse, identify and compare the evidence sample collected from the spot of crime with the suspect and the victimized/ exterminated organism. The Centre for Wildlife Forensic Sciences at AIWC (Advanced Institute for WildlifeConservation) in Tamil Nadu deals with analysis of various types of wildlife samples through morphometric and DNA based analysis.

Thrust areas: Creation of referral repository of specimen collection of reference specimen representing different taxa (mammals, reptiles, birds, etc) from all over Tamil Nadu through the support of forest department and AIWC researchers. This reference specimen repository is vital for giving robust results to forest department in case of a crime.

Constant improvement in the field of molecular taxonomy for accurate identification of animal species under illegal trade in Tamil Nadu: This is achieved by adopting to new methods in molecular biology and bioinformatics, specific to wildlife forensics.

Morphological examination of artifacts: The morphometry lab at AIWC study the morphological property of collected specimen like, long bones, antlers, ivory, hair, skin/leather to identify traded wildlife articles.

Analysis of wildlife samples

Analysis of wildlife samples can also be applied to the verification of products in trade and the detection of criminal activity. Traceability systems based on techniques such as DNA profiling are used to audit supply chains in the timber and fisheries industries and to authenticate captive breeding claims. Incidences of illegal trade can be subsequently investigated through directed forensic casework. To support ongoing trade investigations, analysis of wildlife parts and products may also be used to generate intelligence on illegal harvesting or poaching and subsequent trade routes. Such applications are typically performed under a reduced level of quality assurance and therefore should not be relied upon to generate legal evidence, but may provide the enforcement community with important information to help direct criminal investigations.

Any application of forensic science represents one link in a longer

investigative chain, from detection of a crime through to its eventual prosecution. In order to take advantage of wildlife forensic techniques it is essential that laboratory analysis is integrated within a wider forensic framework. For this reason, forensic procedures must be considered at a broader level, beginning with the collection of evidence at the crime scene and ending with an understanding of the evidence in the courtroom.

Enforcement needs of forensic science:The development and application of wildlife forensics must be driven by enforcement needs, addressing the key questions or points to prove in an investigation. The particular investigative questions relating to an evidence item are usually case specific, but can typically be described as follows:

Whatspecies is it from? Where did it come from? Was it taken from the wild? Does it match to a specific individual? How old is it?

Wildlife crime investigation:Analysis of wildlife samples may include many different scientific techniques, some of which have been transferred from mainstream criminal forensics, and others that have been developed specifically for wildlife crime investigation. Although wildlife forensic methods are advancing rapidly, many techniques are specific to certain species or sample types.

The Problems faced

To prosecute illegal transnational wildlife trade, it is necessary to establish that a crime has occurred. Most wildlife protection laws refer to specific species and may also relate to the source or age of a wildlife product. Parts and derivatives of traded flora and fauna can take many forms and often cannot be easily identified, preventing enforcement officers from demonstrating criminality. To enable prosecutions, it is necessary to provide compelling evidence concerning the origin of wildlife products.

Wildlife forensics utilizes forensic science principles to investigate and prosecute crimes against animals and their habitats. It helps identify species, analyse evidence from crime scenes, and determine causes of death, aiding in wildlife conservation efforts and law enforcement. This field utilizes various techniques to analyse evidence, identify species, and link suspects to crimes, ultimately aiding in the protection of endangered species and ecosystems

Global development of wildlife forensic capacity Forensic science has been applied to wildlife law enforcement for decades, but its availability has historically been restricted to a few developed nations. In the past ten years, this picture haschanged and there are now numerous initiatives supporting the development of wildlife forensic capacity at a global scale.

Development of wildlife crime scene guide: Wildlife forensics relies on the correct collection and transfer of evidence, from crime scene to courtroom. For evidence to be admissible in court it must be appropriately handled, documented, and preserved. Wildlife crime commonly occurs in remote regions with little likelihood that dedicated crime scene investigators can attend. Therefore, it is essential that all wildlife law enforcement personnel have a working awareness of crime scene investigation principles to ensure evidence collection preserves integrity, prevents contamination, and is properly documented. The wildlife forensics community is collaborating to increase in-country crime scene capacity through train-the-trainer programmes, targeting regions where improvement is most needed. To facilitate and standardise appropriate training, the community has developed a Wildlife Crime SceneGuide. Forensic science plays a crucial role in wildlife protection by providing scientific analysis to support law enforcement in investigating and prosecuting wildlife crimes. This field, known as wildlife forensics, utilizes various techniques to identify species, analyse evidence from crime scenes, and link suspects to illegal activities involving wildlife Responders. Wildlife responders are individuals or organizations dedicated to the rescue, care, and rehabilitation of sick, injured, or orphaned wild animals. They play a crucial role in wildlife conservation

Development of wildlife forensics in India:

India's wildlife forensics development began in earnest with the establishment of the Wildlife Forensic and Conservation Genetics (WFCG) Cell by the Wildlife Institute of India (WII) in the late 1990s and its merger with other labs. The field has since seen advancements with specialized labs like the one at WII and the Zoological Survey of India (ZSI), focusing on DNA analysis, morphometrics, and developing reference sample repositories to bolster evidence in wildlife crime prosecution and conservation. Recent initiatives include the establishment of the National Forensic Sciences University (NFSU) and the Rashtriya Raksha University (RRU), which aim to standardize forensic practices across India, including wildlife crime.

Early Stages & Key Institutions

- Establishment of WFCG: The Wildlife Institute of India (WII) was instrumental in establishing a Wildlife Forensic Cell (WFC) in 1999, which later evolved into the Wildlife Forensic and Conservation Genetics (WFCG) Cell.
- Purpose: The WFCG Cell focuses on using scientific analysis and DNA technology to identify species from confiscated wildlife parts and products, helping to enforce the Wildlife (Protection) Act, 1972

Key Areas of Development

- DNA & Molecular Forensics: Advanced techniques like DNA sequencing, DNA forensics, and the development of population reference databases are crucial for accurate species identification and linking criminals to wildlife crimes

- Morphometric Analysis: This involves examining the physical characteristics of species to identify them, which is essential for legal proceedings where the species' legal status (e.g., legal mammoth ivory vs. illegal elephant ivory) must be determined

- Repository Development: A vital component of the field is creating reference sample repositories of various wildlife species, which serve as a vital reference for comparison in forensic investigations

Key applications of forensic science in wildlife protection:

Species Identification:

Forensic techniques like DNA barcoding and morphological analysis are used to identify animal species from seized samples, even from parts or products like horns, tusks, or skins

Evidence from crime scenes:

Forensic scientists analyse evidence from wildlife crime scenes, including footprints, hair, blood, and other biological samples, to reconstruct events and identify potential suspects.

Cause ofdeath:

Forensic science helps determine the cause of death in wildlife cases, analyse suspected poisoning, and trace the origin of illegally traded wildlife products

Prosecution Support:

Forensic evidence is crucial in building strong cases against individuals involved in poaching, illegal trafficking, and other wildlife crimes, aiding in successful prosecutions.

Conservation Genetics:

Forensic techniques, particularly DNA analysis, are also used in conservation efforts to assess population genetics, identify inbreeding, and monitor the health of wildlife populations

Conclusion:According to the United Nations Office on Drugs and Crime (UNODC), forensic analysis assists in identifying the species and place of origin of animal items involved in illicit trafficking, including ivory, horns, and furs, which aids in the prosecution of traffickers. Wildlife forensic sciences also deal with conservation and identification of rare species, and is a useful tool for non-invasive studies. India is a large country with approximately 65% of human population sharing space with wildlife in protected areas. They often cross lines for food and in the end the animal is eliminated on pretext of being man eater and biodiversity disrupted on pretext of need.

(The author is a retired Deputy conservator of Forests and is a practicing Advocate. He studied Criminal justice and forensic science in University of Hyderabad and can be accessed at vvhp53@gmail.com or 7893673767)

How Photography is Counting, Conserving, and Connecting India's Wildlife

Sri.N. Shiva Kumar

In India, a land of staggering biodiversity and relentless human pressure, the humble photograph has emerged as a powerful ally of science. From the high ridges of Ladakh where snow leopards leave ghostly trails, to the mangrove swamps of the Sundarbans where tigers swim through tidal creeks, photography is no longer confined to documenting beauty. It has evolved into a frontline tool of conservation, recording, counting, warning, and even prosecuting. Today, wildlife census in India is incomplete without a lens.

Photography as Census Science

For decades, enumerating India's wild animals depended on pugmarks, sightings, and educated guesses, methods riddled with inaccuracies. Today, photography has rewritten the rules.

Camera Traps: Perhaps the greatest revolution has been the silent eye of camera traps. These motion-activated devices, fitted with infrared sensors, capture animals without human presence. In tiger landscapes, from Corbett to Kanha, these cameras provide individual identification based on stripes, unique as human fingerprints. This photographic evidence has powered India's all-India Tiger census, considered among the most ambitious wildlife surveys in the world.

Drone Photography: In Gujarat's vast dry landscape of Little Rann of Kutch, drones photograph herds of Indian wild asses across vast salt pans where human tracking is near-impossible. In Assam's wetlands, aerial images from drones help census migratory birds that arrive by the tens of thousands. These bird's-eye views reduce human error and intrusion.

Long-lens Digital Photography: Advances in DSLR and mirrorless technology have enabled biologists and citizen photographers to record fast-moving species — from hornbills winging across Arunachal skies to the critically endangered Great Indian Bustard sprinting in Rajasthan's deserts. Such images become evidence of survival in fragile landscapes.

Citizen and Smartphone Photography: With smartphones in almost every hand, even casual photos are becoming data points. A farmer's photo of a leopard in a sugarcane field, or a villager's video of a Sloth Bear in Satpura, often reaches forest departments before official reports. These accidental census contributions add fresh dimensions to wildlife databases.

In short, photography has moved from being an observer's art to a census ledger.

BOX ITEM:----------

I Fast Facts: Photography & Census

- Over 80,000 camera traps were deployed during India's 2022 Tiger Census, covering 3,17,000sq. km of forest.
- The census documented 3,167 individual tigers, making India home to more than 70% of the world's wild tiger population.
- Drone-based bird counts in Gujarat and Assam have identified over 300 species of migratory birds.
- Nearly 40% of new wildlife observations submitted to forest departments now come from citizen photographers using smartphones.

Photograph as Witness

Numbers may count animals, but photographs tell their truth. In a country where 1.4 billion people demand land for housing, roads, dams, and mines, photography serves as irrefutable testimony.

Think of the haunting image of tigress Avni, shot under controversial orders in Maharashtra. Or the countless visuals of Elephants killed by electrocution in Assam, Leopards tangled in sugarcane snares in Maharashtra, or Flamingos threatened by Mumbai's rising concrete. These frames pierce apathy, stir outrage, and create pressure where statistics alone cannot.

In 2023, drone images of illegal mining inside Goa's protected areas, captured by citizen photographers, were submitted to the National Green Tribunal. The result was immediate: mining was halted, and buffer zones were redrawn. Here, a photograph became not just a conservation tool, but legal ammunition.

BOX ITEM:----------

 Fast Facts: Photography as Evidence

- In 2023, drone photos halted illegal mining in Goa after evidence was submitted to the National Green Tribunal.
- Court cases on wildlife poaching and illegal logging increasingly rely on photographic evidence — over 250 cases in the last decade.
- Viral wildlife photos and videos have influenced at least 12 policy debates in Parliament on conservation and habitat loss.

Building an Archive of Wilderness

India's wildlife photographers- many self-taught, fiercely passionate, often self-funded- are building what can only be called a visual archive of natural heritage. Each photograph of a Gharial basking in Chambal, a Barasingha wading in Kanha, or a grey-headed fish eagle in Arunachal is a record of presence, proof that species still persist.

Institutions like the 142-year-old Bombay Natural History Society (BNHS), WWF-India, Wildlife Trust of India, and Wildlife SOS, alongside professional individuals like SandeshKadur, Dhritiman Mukherjee, and NallaMuthu, have elevated Indian conservation photography onto the global stage. Their cameras have brought the Snow Leopard, Arunachal macaque, and Rare Caracal into global consciousness.

Without these visual records, many species would vanish not just in the wild but from public memory.

BOX ITEM:----------

 Fast Facts: Visual Archives

- BNHS (founded in 1883) houses over 150,000 wildlife photographs and illustrations.
- Indian conservation photographers have won more than 50 international awards in the last two decades.
- At least 12 species in India were re-confirmed as extant after decades, thanks to photographic evidence (e.g., Arunachal Macaque, Rusty-spotted cat).

From Jungle to Classroom

The power of wildlife photography extends far beyond the census. It connects city-dwellers to jungles they may never see. A photograph of Flamingos painting Mumbai's Sewri mudflats pink, or a Barasingha silhouetted in Kanha's mist, can spark a child's lifelong curiosity about nature.

This visual storytelling has turned passive hobbies like birdwatching into booming cultural movements. Coffee-table books, Instagram feeds, wall calendars, and travelling exhibitions are reshaping India's narrative of wildlife, from one of conflict and fear to one of curiosity and pride.

Even industries have been unexpectedly drawn into the fold. For instance, the Mathura oil refinery, surrounded by high-security walls, has quietly allowed a mini bird sanctuary to thrive for decades. Regular photographic documentation has revealed its surprising role as a biodiversity hotspot, inspiring other industries to follow suit.

BOX ITEM:----------

I Fast Facts: Photography & Public Engagement

- India has an estimated 20 million birdwatchers, many of whom rely on photographic field guides and citizen science participation.
- The Asian Waterbird Census 2024 recorded 128 species across India, with photography confirming many rare sightings.
- Instagram accounts of leading Indian wildlife photographers collectively reach over 5 million followers, making visuals a mass education tool.

Shifts, Challenges, and Ethics

Yet, capturing wildlife for census and conservation is no easy task. Photographers battle harsh terrains, unpredictable weather, bureaucratic red tape, and sometimes hostility from local communities or poaching syndicates. The risks are physical and political.

Ethical questions are constant. How close is too close? Should nests be photographed? Should distressed animals be documented or rescued? Increasingly, Indian photographers are adopting strict codes: no flash at night, no baiting, no disturbance during breeding. The emphasis is shifting from dramatic spectacle to honest, responsible storytelling.

Perhaps the most exciting shift is the rise of local voices. Across Nagaland, Chhattisgarh, and tribal belts, village youth armed with second-hand cameras or smartphones are documenting their landscapes. They record sacred groves, traditional medicinal plants, animal migrations, and even wildlife crime. Their photographs enrich census efforts with local knowledge and authenticity, ensuring conservation is not an outsider's narrative but a community's own.

BOX ITEM:----------

I Fast Facts: Challenges in the Field

- Wildlife photographers often trek 30–40 km over several days to set up or check camera traps.
- Equipment costs are high: a single DSLR with telephoto lens can exceed ₹5–7 lakh.
- Forest permissions for photography can take up to 6 months, delaying projects.
- Over 100 local community photographers have been trained in states like Nagaland, Odisha, and Chhattisgarh in the last five years.

Power and Spirit of the Lens

India's relationship with nature is deeply spiritual — rivers as goddesses, animals as deities, forests as abodes of the divine. Wildlife photography captures this intangible reverence. A wild Elephant crossing the Nilgiri Hills at dusk, a fishing eagle above Kerala backwaters, or a Barasingha stepping into Kanha's dawn fog feels almost sacred.

Such images go beyond data. They remind us that biodiversity is not just ecological wealth but cultural heritage.

Even amateurs play a role. A viral smartphone image of a leopard cooling itself in a Nashik school bathroom or a video of a Sloth bear chasing a Tiger in Tadoba has informed scientific studies on animal behaviour. In the WhatsApp era, a single frame can reach millions overnight, carrying a conservation message more powerful than any report.

The Road Ahead

As India balances rapid development with fragile biodiversity, the role of photography in wildlife census will only grow. Artificial intelligence now helps analyse camera-trap photos, drone imagery maps migration routes, and satellite photography monitors forest loss. Yet, technology alone is not enough. It is the human eye — patient, empathetic, passionate — that turns pixels into stories.

Ultimately, every wildlife photograph taken in India is both a record and a reckoning: of species counted, habitats lost, and choices made. In the glint of a Tiger's eye, the leap of a Langur, or the spread of a Vulture's wings, we see more than animals. We see our own story of coexistence or collapse.

And the question each photograph quietly, insistently asks is: Will we let this story continue?

The author is a Sporadic Scribe, Wilderness Worshipper and CandidCamera Craftsman for over three decades. [former General Manager at IndianOil Corporation Limited]. Email : Shiva.Nomad@Gmail.com and NatureNib@Gmail.com.

Photographs &Photo Captions

CopyRight of N.Shiva Kumar

1. An endangered full-grownsubadultFish Eagle is flexing its wings and exploring the jungles of Tadoba National Park[Photo CopyRight of N.Shiva Kumar]

2. The male Gharial Crocodile is known for its 'matka / ghara' on the tip of its snout at Chambal River and is on the critically endangered list. [Photo CopyRight of N.Shiva Kumar]

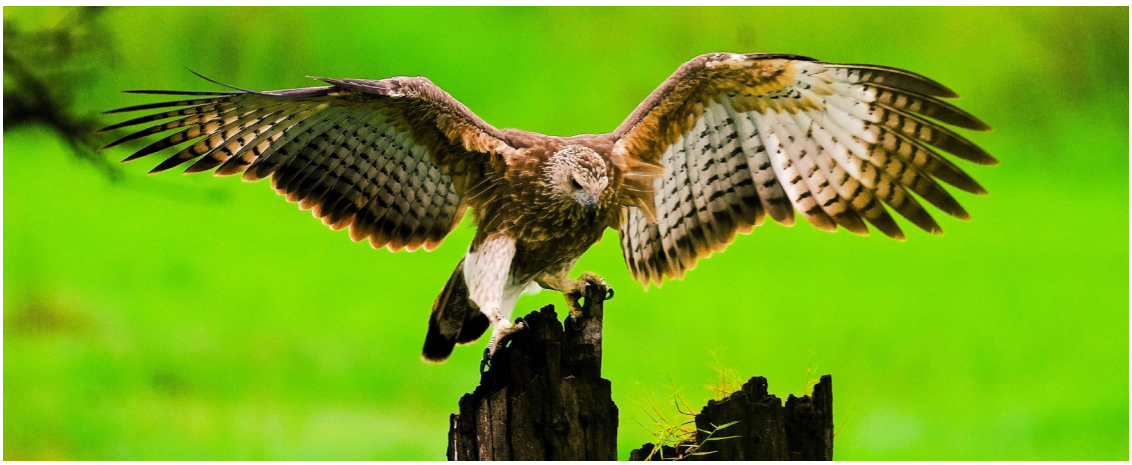
3. Silent and statue like is the large eyed Stone Curlew, also called Thick-Knee, a bird rarely seen in the wild for its perfect camouflage. [Photo CopyRight of N.Shiva Kumar]

4. Dainty and beautiful with a purpose, butterflies play an important role in pollination for the progeny of plants. [Photo CopyRight of N.Shiva Kumar]

5. Hidden in the foliage of jungles, Owls play an important role in controlling rodents and pests. [Photo CopyRight of N.Shiva Kumar]

6. Thriving in the cold regions of Ladak the comical Marmots lead a life underground in the winters and emerge during summers. [Photo CopyRight of N.Shiva Kumar]

7. Text file for publication in VanaPremi magazine.



Fish Eagle - Photo CopyRight N.Shiva Kumar

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109th General Body Meeting of the Association of retired forest officers Of Telangana& Andhra Pradesh

Presentation on Forest Rights Act by Sri.P.K.Jha, IFS (R)& Interactions

Office bearers Felicitated Sri.G.Yadaiah,IFS (R) one of the sponsors of Lunch for the participants of GBM. Smt. Kamala Rao, IFS (R) was the other sponsor

Visit to Sri.Raja Reddy's Home to greet him on his 99th Birthday

Digital APO Workshop of Southern States & UTs

Pictures from Forest Martyrs' Day in Telangana

Hon'ble Minister for EFS&T
Smt.Konda Surekha laying wreath

Dr. C.Suvarna, IFS., PCCF (HoFF), T.G
laying wreath

Chief Secretary Sri.K.Ramakrishna Rao,IAS
laying wreath

DG Police Dr.Jitender, IPS laying wreath

Dignitaries observing silence

Group photo of the dignitaries and Guests

The women power in
Telangana Forest
Department

Pictures from Forest Martyrs' Day in Andhra Pradesh

Sri. Kantilal Dande, IAS Prl.Secy EFS&T Laying a wreath

Dr.P.V. Chalapathi Rao, IFS PCCF (HoFF) Laying a wreath

Forest Martyrs' Memorial

Group photo : Local MP; Prl.Secy; PCCF; Advisor Sri.P.Mallikharjuna Rao, IFS (R) and other senior officers

Dignitaries with Guests, Field Forest officers and staff

Continuation from page No. 54

Crocodile-Gharial- Photo Copy Right -N.Shiva

5C.THICK Knee -Photo Copy Right N.Shiva Kumar

Photo Copy Right -N.Shiva Kumar-Butter fly

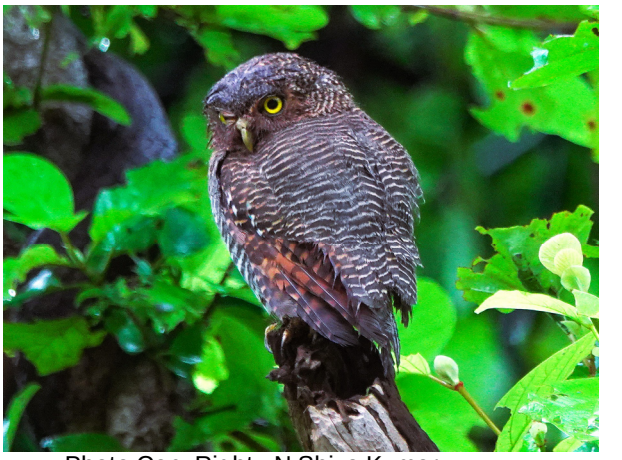

Photo CopyRight - N.Shiva Kumar

Photo Copy Right -N.Shiva Kumar-Marmot

Magic on a Machan in Dhikala

Dr. Padam Parkash Bhojvaid, IFS (R)

Deep inside Jim Corbett National Park, nestled along the banks of the Ramganga River in Utrakhand, lies Dhikala Forest Camp — a place where nature's secrets reveal themselves to the patient observer. It was May 2001, peak summer, when I found myself seated at breakfast in the Director's suite at Dhikala, sharing tales of my previous evening's safari with Mr. Thapliyal, the Assistant Conservator of Forests.

With nearly ten hours to spare before my night train to Dehradun, I asked him how best to spend the remaining day. A mischievous twinkle lit up his eyes.

"Ever sat alone on a machan deep in the forest?" he asked.

Before I could protest, he had summoned the block officer to arrange a stint on a wooden machan perched high atop a sturdy Jamun tree at Bichu Bhoji, a spot famed for wildlife drawn to its watering hole — especially in the parched summer.

An hour later, accompanied by a calm, rifle-bearing forest guard, I set off on foot. The one-kilometre trail felt endless. At every rustle, I imagined predators lurking. The guard pointed out fresh tiger pugmarks heading towards the Ramganga. His casual tone only amplified my unease.

The machan itself was simple but sturdy: a wooden platform, eight feet square, braced firmly among the thick branches eight metres above the forest floor. Two side walls and a sloping roof offered a sense of enclosure, while a small round ventilator — like those on old birdhouses — overlooked the clearing below.

The guard handed me a thermos of coffee, a packet of sandwiches, bottled water, and left with a promise to return in four hours. Alone now, reality struck. Only the creak of the wood beneath me and the occasional hiss of wind in the leaves broke the forest hush. The ghost of a leopard I had glimpsed the previous evening seemed to stalk my thoughts.

To steady my nerves, I lit a cigarette and poured coffee. Slowly, the forest's quiet confidence seeped into me. I flipped open a borrowed copy of wildlife book by the Bedi brothers and found,

to my delight, a passage describing this very machan. As I read, the clearing below began to transform into nature's own amphi-theatre.

Around noon, the first actors arrived. A stately male langur climbed onto a branch near the water, scanning the horizon. Once convinced all was safe, he called out softly. Soon, a procession of mothers with babies, lanky adolescents, and elder males emerged, bending in yogic grace to sip at the shrinking pool. The sentinel langur stayed watchful until the last of his kin had drunk, and

then descended him for a brief sip.

Behind them, a peaceful parade of chital, sambar, wild boar, and countless birds approached in turn, each species giving the other space, moving with an unspoken choreography. At one point, I counted more than 200 animals milling about the pond — a living tableau of what our ancestors once called Ram Raj, where every creature knew its place and purpose.

But the true monarch of this drama was yet to appear.

I was reading, lulled by the gentle hum of the forest, when the hush was torn apart by a thunderous trumpet. From the underbrush emerged a gigantic tusker, his ears flaring like sails. At once, the smaller herbivores scattered — vanishing into the trees, leaving the clearing to the lone giant whose very footsteps seemed to shake the earth.

Rapt, I watched as he plunged his trunk deep into the water, drawing up gallons and showering himself with powerful sprays, his massive feet stamping the mud into submission. I fumbled for my camera and clicked feverishly, forgetting caution. Perhaps it was the shutter clicks, or the drifting smoke from my cigarette, but suddenly the tusker paused mid-shower, turned, and looked straight at me.

He raised his left foreleg in a half-lunge and let out a trumpet so fierce it rattled the machan's timber. My breath caught. For an instant, I imagined him crashing the tree, toppling me like a matchstick. But with a dismissive snort, he dropped his leg — a mock charge, nothing more — and resumed his bath.

Moments later, the bushes parted again. One by one, more elephants emerged: calves stumbling behind their mothers, sprightly adolescents pushing each other playfully, and vigilant females fanning out protectively. Within minutes, 27 elephants surrounded the pool — a matriarch-led herd, with the mighty tusker among them, moving not as a dictator but as a careful guardian.

It was an orchestra of raw power and tender discipline. The tusker checked each female, curling his trunk to sniff their readiness. He tugged a calf's leg gently, earning a squeal of delight. No sudden movement escaped his notice. While the herd drank and bathed, he remained alert, pivoting his bulk to keep an eye on the forest's edge — and, it seemed, on me.

The exhibition of this kind of control and regulation by a tusker was new knowledge to me. However, based on published literature, there are plausible explanations for such uncommon behavior. While herds are typically controlled by the oldest female — the matriarch — individual elephants can display varying social dynamics. In some cases, lone male elephants, known as loner tuskers, may join a herd for social interactions or mating purposes. It is also known that tuskers can exhibit playful behavior towards young elephants within a herd, as observed with the tugging of the baby's legs. These behaviors may indicate that this particular tusker had a unique social role within the herd, potentially acting as a guardian or a cooperative member of the group.

The herd spent almost an hour quenching their thirst and bathing their bodies. What was especially remarkable was the vigilance of the tusker — attentive to each member of the herd, yet commanding without aggression. The drama ended with a shrill, low trumpet from him — akin to the final cue from a master conductor to his orchestra, a definitive signal to end the performance. The matriarch led the departure from the waterhole, followed by the young males,

Contd.. on page No.40

The Midnight Road Block

Anirudh Kumar Dharni, IFS (R)

I got selected for the Indian Forest Service in 1987. A family friend and a well- wisher, who had some familiarity with the service, remarked to me, “Congratulations. You will enjoy your career because forest officer is a king of jungle!”. Taking his compliment literally to heart I then readily concluded that children’s story books had probably misled me earlier to erroneously believe that Lion was the king of jungle!. Nevertheless, I really felt like a king on my first posting as Wildlife Warden in Parambikulam Sanctuary in Kerala because - one reason among many - only the Warden had an old, green canvas top Maruti Gypsy, that too non AC, in the entire jurisdiction of nearly 300 sq km landscape comprising only of forests. The four range officers, by contrast, had Mahindra jeeps. It also made me realize later in life how often we need very little to be happy and contented.

The forest department was the only arm of the Government of Kerala in that densely forested valley having hardly any human habitation other than about 800 tribals in four hamlets spread in different corners. There was a huge reservoir, right in front of my official residence across the road barely 70 m away, that I treated as my private swimming pool though it had crocodiles too that were occasionally seen floating languidly in deeper parts. However, they very considerately maintained a respectable distance while I swam near the bank of the reservoir allowing me an illusion of royal entitlement. In the evenings on alternate days I had the pleasure of hand rowing a small boat- a skill that I picked up in the initial days from a daily wage forest watcher. The boat could just accommodate four people and I rowed it under his watchful eyes while he held my one-year old daughter who also enjoyed the outings.

Parambikulamis a remote place on the border of Kerala and Tamilnadu. The nearest town, Pollachi, in Tamilnadu, was 55 km away while Palghat in Kerala was at a distance of 100 km and one had to manoeuvre nearly 30 km of a meandering hill road having sharp curves on a steep incline with lush green forests to reach there. Despite this place being in Kerala, it had no direct motorable road access from anywhere within the state and one had to pass through the adjoining Indira Gandhi Wildlife Sanctuary in Tamilnadu along a single lane meandering road that was the only lifeline for transport.

Absolutely nothing was available in Parambikulam those days for the kitchen except for a variety of fish from the reservoir- a boon for a non-vegetarian. Hence, one was thankful for the various official meetings in Palghat and other cities because attending them made possible an intermittent and precariously short supply of groceries and vegetables, offering a big relief to my strictly vegetarian family.

In 1991 mobile phones were yet to appear on the scene anywhere in the world and for all official communication there was a wireless system with repeater stations beaming messages across the state all the way from Trivandrum. Often it required Leonardo da Vinci problem solving ability to unravel the garbled messages especially in English that passed through a series of transmitters and receivers, ears and mouths of the forest staff or daily wage watchers attending the wireless. Indeed, it was difficult to pinpoint the exact source of any distortion in those wireless messages whenever it occurred and had to be taken in stride.

Those days my immediate boss, the Field Director, had his office in Kottayam and for attending his monthly meeting, I had to drive first for 2 hours to Palghat by road and then board a train after instructing the driver to park the vehicle in "Wood House" - a Forest Rest House made entirely of wood- till my return that used to be late night.

Every day after sunset the check post barriers on the road passing through the sanctuary were closed for general public and the green Maruti would be the only vehicle moving at that odd time with magnificent forest and its fauna standing as mute witnesses. On many such nocturnal return trips I could see a lot of wild animals - herds of spotted deer, a lone sambhar scrambling away, a bear family in a playful frolic or a white stockinged stout wild gaur with a prominent dewlap -on the road itself. As no vehicular traffic, other than for government purpose, was allowed between dusk and dawn on this approach road in adjoining Tamilnadu and Kerala sanctuaries, the wild animals felt safe to roam around freely and one had a feeling of being in the midst of Garden of Eden because of its tranquillity.

Returning from one such monthly meeting at Kottayam, it was past mid-night when my driver made the usual request to Tamilnadu forest barrier staff on duty to allow my vehicle to pass through. The sleepy staff came out half dazed, gave one look at the familiar vehicle and lifted the barrier. The vehicle glided along silently with no other soul in sight. Even the tribal colony that we passed after a couple of kilometres was very quiet and I could only see the dark silhouettes of their sparse dwellings from the road.

Owing to the travel fatigue I might have dozed momentarily while my driver, Ravi, drove the vehicle with rapt attention. Suddenly I was awakened when Ravi gasped and stopped the Gypsy. The weak headlight of Maruti and the soft moonlight shone on a lone tusker that was happily standing on the middle of the road relishing the bamboo culm it might have uprooted from a nearby area. Ravi, a young man in his late twenties with a sober face and generally reticent smile, was used to such encounters and apparently it was not a matter of any concern. There was no way we could drive further without the tusker giving us the right of way and it looked that it was in no mood to do so.

Ravi initially dipped, switched off and flashed the vehicle's light beams for several times to scare the animal but that had absolutely no impact on it. Its huge head swayed from side to side and the big ears kept on fanning lazily while it eyeballed us coolly in the dark. I knew that elephants have poor eye sight but in that instant I was not willing to rely on that theory and bet my life on it. For a couple of minutes Ravi tried all the tricks up his sleeve gained over seven years of driving in Parambikulam. He banged against the metal door of Gypsy and raced the engine thereby shattering the dead quiet of the night but the elephant turned a blind eye and a deaf ear to all his efforts. It was a battle of human wit against the fear of brute animal strength and we were clearly on the losing side.

After 15-20 minutes of his futile efforts Ravi looked at me helplessly and suggested, “Sir, let us go back and attempt to seek help from the nearest tribal colony”. I was apprehensive whether anyone would be up and awake at that hour to listen to our plight and would also be agreeing to assist us. In the worst scenario my mind was already contemplating a long uncertain wait in the vehicle at a reasonably safe distance from the tusker. As the situation was not getting resolved I agreed to his idea and we turned tail and drove back to the tribal colony we had passed earlier on our way hoping for the best.

Ravi gingerly entered the colony while few dogs barked in the background alarmed by the odd and unexpected visit. Luckily, and to my utter surprise, he could muster five tribals who immediately boarded the Gypsy without much persuasion to help us.

We drove again to the spot where we found the elephant enjoying his “dharna” and still did not bother on the approach of the vehicle that he had treated with utter disregard earlier too. What happened next was surprising and hilarious. The men in the back of the vehicle got down noisily, folded their ‘mund’ (lungi) up above their knees and started moving un-hesitantly in tandem towards the tusker while clapping their hands vigorously and shouting something in Tamil that I could not decipher. The ease, comfort and harmony with which they did the march was as if they were just participating in Beating the Retreat parade on Delhi’sJanpath road. The tusker that had managed to ignore all our attempts to budge it earlier was totally unprepared for this contemptuous treatment meted out to it by mere human beings. On seeing the small crowd approaching it with clapping sounds and showers of noisy Tamil words, the huge animal promptly turned around, took to its proverbial heels, quickly got off the road like a cartoon animation character and vanished in the adjoining forests lending a comical effect to its summary eviction. The whole scene was enacted in less than a minute and the tension of the road block melted away immediately. However, the night still had one more surprise for me that turned out to be a huge life lesson that could not be forgotten even after so many years.

Once we got convinced that the tusker had been “politely” cajoled to leave us in peace, I asked Ravi to inform the tribals to board the vehicle again so that we could drop our brave heart saviours back to their colony. It may sound totally irrational, absurd or even unbelievable, yet all of them declined our offer in all humility and asked us to proceed on our way assuring us that they would happily walk back without any inconvenience. This was the most humbling moment of my life -realising that they had to walk at least three kilometres at that odd hour to reach their hamlet sacrificing their sleep apart from the fear of facing other wild animals on the way. Despite several combined pleas from Ravi and myself offering to transport them in our vehicle, those five men simply walked back waving us off joyfully with beaming smiles as if it was something routine in their life and not a feat even to be acknowledged. Finally, Ravi and I drove on to our destination feeling amazed and indebted. While many intellectuals and conservationists only talk about interdependence of species on this planet, I was given ahands- on lesson about “VasudhaivaKutumbakam” by those simple folks.

That noble and selfless gesture of those tribals fills me with gratitude every time I recall it.

The author is a retired PCCF of Kerala cadre. M-8223994111

Towards Harmony: Human- Elephant Interface Management in Andhra Pradesh – challenges and opportunities

B. VijayaKumar, IFS

Introduction

Human-elephant conflict in Andhra Pradesh is a pressing issue, particularly in districts like Chittoor, Tirupati, Annamayya, and ParvathipuramManyam. The Andhra Pradesh Forest Department has explored various solutions to address this issue.

Case Studies from India

Human-elephant conflict is a significant challenge in Andhra Pradesh, particularly in districts like Chittoor, Tirupati, Annamayya, and ParvathipuramManyam. The conflict is primarily driven by the expansion of agriculture and urbanization into natural habitats, leading to encroachment and fragmentation of elephant habitats.

Proposed Solutions

- Enclosure for Free-Ranging Elephants: Creating an enclosure for free-ranging elephants may not be a permanent solution, as it may not address the root causes of human-elephant conflict.
- Relocation to Protected Areas: Shifting elephants to protected areas like NagarjunasagarSrisailam Tiger Reserve (NSTR) or other reserve forest areas may not be a viable solution. As this approach raises concerns about the relocated elephants' well-being.
- Kumki Elephants: Utilizing kumki elephants to mitigate human-elephant conflicts may not be a permanent solution, as wild elephants may return to fields after some time.

Challenges and Concerns

- Habitat Destruction and Human Encroachment: Deforestation and urbanization reduce natural food sources, forcing elephants into human settlements.
- Elephant Behavior: Elephants develop hostility towards humans if they witness harm to their herd members.
- Costs Involved: Maintaining kumki elephants and relocating wild elephants requires significant funding.

Possible Solutions

A multi-pronged approach:

- Community-Based Conservation: Educate and involve local communities in conservation efforts.
- Habitat Management: Protect and restore natural habitats, providing elephants with sufficient food and water.
- Sustainable Land-Use Practices: Adopt practices that balance human needs with elephant conservation.

Case Study: Karnataka's Community-Based Conservation Approach

Karnataka's community-based conservation approach has been successful in reducing human-elephant conflict. The state has established eco-development committees in villages surrounding protected areas, which work with the forest department to develop sustainable livelihoods and promote conservation.

Wildlife Protection Act, 1972

The Act provides guidelines for protecting elephant and their habitats. Any solution must consider the Act's provisions and potential impacts on elephant welfare.

Conclusion

Addressing human-elephant conflict in Andhra Pradesh requires a comprehensive approach that balances human needs with elephant conservation. By adopting sustainable land-use practices, protecting natural habitats, and engaging local communities, Andhra Pradesh can reduce conflicts and promote coexistence between humans and elephant.

Recommendations

- Develop a comprehensive human-elephant conflict management plan that incorporates community-based conservation, habitat management, and sustainable land-use practices.
- Establish eco-development committees and community development committees in villages surrounding protected areas and reserve forest areas to promote conservation and sustainable livelihoods.
- Provide training and capacity-building programs for forest officials and local communities to effectively manage human-elephant conflict.

By adopting a multi-pronged approach and engaging local communities, Andhra Pradesh can reduce human-elephant conflict and promote coexistence between humans and elephant.

Author is an Indian Forest Service Officer working as Director, AP state forest academy, Rajamahendravaram, Andhra Pradesh.M-62810 72815

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babies, and their mothers. The tusker lingered for a few moments before departing last. His loud farewell trumpet seemed to announce to the forest that the stage was once again open — the waterhole was now available for the lesser gods.

By the time the guard returned at quarter to four, I had long abandoned my book and cigarettes. My notebook was full of scribbles I could barely decipher, the camera warm from overuse. As we walked back towards Dhikala, I recounted every moment in breathless detail. The guard listened with the quiet indulgence of a man who had seen such wonders a hundred times, yet knew their value better than any research paper.

In those few hours on a humble machan in Dhikala, I had glimpsed a master class in social order, respect, leadership, and primal trust — not through textbooks but through the living theatre of the wild.

And as my train pulled away from Ramnagar that night, rocking me gently into dreams, I carried home not just photographs but a memory of the true kings of Corbett: the elephants, keepers of a jungle kingdom where harmony still rules, far from the restless noise of our so-called civilization.

The author is a former PCCF (HoFF) of Haryana State. M-70879 56657

Tried to understand what birds could speak

P. Visweswaraiah, Dy.CF (R)

Today morning was so beautiful. From the top floor where I live,just onto the north of my flat, I could see the panoramic view of the Seshachalam forest. The atmosphere is pleasantly cooldue to the drizzle yesterday evening. A cookoo bird began to sweetly sing,sending me back to the days I spent at Giddalur forest.

As usual, there were monthly meetings in the circle office in Guntur. To prepare for these meetings, I had to meticulously prepare answers to all the agenda items. My boss,Sri AnupSingh Sahebthoroughly examined and compared the monthly progress targets like planting progress, disposal of chargesheets, collection of C-fees, disposal of offences, etc. Some of my colleagues were IFS officers and my plan was to keep in pace with them. Usually, I sat in the division office, preparingfor all the agenda items that were very hard due to theusual disturbance with local politicians, permit aspirants, petty offenders, etc.

A day before the monthly review meeting, I was on camp atDiguvametta FRH which was about 12 kms away from the division headquarters.The FRH was very old and mildly stunk.Hence, I sat outside on the eastern side verandah. The songs and chirpings of the birds on the Tamarind and neem treeswas a pleasant disturbance and my work went on well.Suddenly, a crow sitting on the lower branch of the tamarind tree was yelling kaav, kaav!I looked up and saw the movements of the crow. The crow was loudly cawing at the top branch of the Tamarind tree. To my surprise, there was a painted stork sitting on the top linear branchof the tree. The crow began to cry against that birdand shouted at it. I imagined the conversation that those two birds might be having…

Crow: Hey!who are you? How dare you come and occupy this branch in the FRH campus!

Painted stork: Hey, I am a painted stork. I came all the way from Siberia. I'm exploring the area and I like this place a lot!

Crow: Mr. Stork, plenty of us arealready settled here in this forest guest house since it was builtin 1927. Noone will permit you to stay here any longer. Moreso, today the local DFO came here and is sitting in the verandah with his files. Let's not create any more disturbances. Instead, go to the adjoining Nallamalai forest, a big chunk of flora and fauna with a huge biodiversity.

Painted stork: Yes, I know it very well, I have been flyingto Nallamalaisfor several years. Anyway, I have come from Siberia by travelling nearly 4,500kms. I have an international visa to travel anywhere in the world. You are a little bird and can't travel like me. I won't take any orders from you soplease keep shut.

Crow: Hey!This forest is a sanctuary and you cannot settle here.

Painted Stork: I am not interested in settling down here. I have already settled with my mates in a village called Gauthavaram, near Besthavarapet, prakasam district. The villagers are very docile and are nature lovers. There is a big group of Tamarind trees where we colonised with no disturbance to the villagers or farmers.

Crow: Oh, are there any settlements where you

migratory birds generally colonise?

Painted Stork: yes, quite a few.Nelapattu sanctuary near Sulurpet for example, was declared a bird sanctuary in 1976. The forest officers classified this area as southern dry evergreen scrub. Barringtonia swamp species are mainly hosting the migratory birds as well. About 186 species of birds migrate to this wetland sanctuary. There are several sanctuaries likeKorringa W.L.S, Kolleru W.L.S, Krishna W.L.S, Rollapadu sanctuary, SriLankamalleswaram sanctuary, Pullicat W.L.S,S.V wildlife sanctuary, Kambalakona W.L.S, and so on. It is the honour of the forest department to maintain all these sanctuaries to save wildlife. Several kinds of ducks and herons are commonly seen in this sanctuary as well, predating on several kinds of fauna. Even jungle cats and hares will compete for food we eat.

Crow: Oh, tell me something more interesting then.

Painted Stork:Well then, yearly once, a flamingo festival is organised by the forest department. Even the local minister, MLAs, the district collector and several other forest officials attend.The farmers and locals will find themselves in mirth and excitement when attending this celebration. The droppings of us birds act as a natural fertiliser to the crop lands and the villagers in return, protect us. They also believe our arrival will bring good rains which help in cultivating crops. And so, thereby we all live in nature together in harmony.

Crow: Okay then. So, if you have all these places you can stay, go then. Stop hanging around in my tree. Leave soon, I must leave for my lunch now.

Crow: hey Blackie!Don't discourage my existance, I won't competefor your food. You crows eat dead animals and whatnot from graveyards and such. Unlike you,I go for fresh fish from the sea shore, fresh water lakes and dams. We feed on several fish like scorpion fish, catfish, fresh water fishes and prawns. It's the same for other migratory birds like the spotted bill, pelicans, painted storks, black capped kingfishers and flamingos. Although, white ibis, black ibis and others might eat some other flora. Today, I am going to search near Gundlakamma reservoir, near gowthavaram.

Crow: I do not fancy your cuisine but enjoy mine vey much. I might not like you but we both can agree on one thing. The kindness of people; the villagers, farmers, the forest department and all those who strive for the conservation of flora and fauna are the reason for the harmony between humans and the rest of nature. We all have our own roles and duties to do, no matter how small or big.

Painted Stork: You are absolutely right! Ok then, I will leave for lunch, you enjoy yours as well blackie!

(Note: This article is a fantasy, and purely fictious. It does not intend to offend anyone. The facts mentioned in the article, however are correct to my knowledge.)

The author has MA, B.Ed., to his credit and is a former DFO. M-99522 20107

The forest is a peculiar organism of unlimited kindness and benevolence that makes no demands for its sustenance and extends generously the products of its life and activity; it affords protection to all beings.

Buddhist Sutra

TIGRESS ZEENAT'S MARATHON SOJOURN FROM ODISHA IN SEARCH OF A MATE AND "KAKATIYA ZOOLOGICAL PARK, HANUMAKONDA GETS TIGERS"

Sri.C.Ramakrishna Reddy, Dy.CF (R)

1-0 :INTRODUCTION:

This is a bewitching / mind boggling story of a tigress by name ZEENAT which made a sojourn in search of a mate traversing about 200 km from Similipal in Odissa. On her travel she crossed three states putting all the wildlife foresters on alert to meticulously follow her Marathon and bewitching trail fearing that she may attack humans on her sojourn. She is a three year old tigress, the wild feline equivalent to an 18 year old human. She was born in TADOBA – ANDHARI tiger reserve in Maharashtra. She was lodged on November 14, 2004 in Similipal Tiger Reserve situated in Odisha'sBalasore and MayurBhanj areas with a fond idea to strengthen the tiger lineage under genetic restoration programme.After arrival, she spent 10 days in a soft enclosure at Similipal Tiger Reserve in Odissa.

1-1 : TIGER'S CHARACTERESTICS AND THEIR ACTIVITIES :

Tigers are explorers. They travel for various reasons, such as finding mates, prey and territory. If they don't find a suitable habitat, they may return to their original location area as per the esteemed opinion of QUAMAR QURESHI, Professor wildlife.

2-0 :CHRONOLOGIC ORDER OF TIGRESS ZEENAT'S SOUJOURN :

2-1 :NOVEMBER 24TH 2024 :

The wild life authorities opened the gate at CHAHALA, a core area in the Simlipalreserv'snorthern part for her wild roaming. In General, the wildlife authorities release tigers into wild to get breeding of strong generation of tigers under genetic restoration programme.

2-2 :DECEMBER 9TH 2024 :

By instinct, the tigress ZEENAT crossed over from Similipal into Jharkhand overnight with the moonlight as her guide, crossing the subarnarekha. The wildlife authorities were puzzled seeing ZEENAT tigress disappear fromSimilipal Reserve. They started making ingenious efforts to track the tigress ZEENAT through the little gadget put around her neck (a radio collar). She wandered about 5 km into Jharkhand's CHAIBASA. It is not a difficult journey since the forest is contiguous with sparse prey.

2-3 :TRACKING THE TIGRESS BY FOREST AUTHORITIES : DECEMBER 9TH 2024 :

The wild life authorities were nervous and tracked the tigress with their devices and traced the movements of the tigress and her stay sending out alerts to authorities in Bengal and Jharkhand. The tigress stayed in Jharkhand away from villagers and their prying eyes.

2-4 :DECEMBER 15TH 2024 :

The tigress ZEENAT stayed in RAJABHASA ofChakulia range in Jharkhand preying on cattle and took rest. The wildlife authorities monitored her trail and stay and felt releaved that the tigress had not made entry into human habitats.

2-5 :DECEMBER 17TH 2024 :

The tigress ZEENAT started heading south, inching closer to Odisha. The authorities tried

to guide tigress back with the help of Kumki elephants but failed in their efforts since the tigress retreated deeper into the forests of Chakulia range far away from human settlements without any trail to follow. ZEENAT tigress left Odisha'sSimilipal Tiger Reserve on 24th November 2024 reached CHAIBASA of Chakulia range in Jharkhand on 17th December 2024 and landed in RAJABASA in Chakulia range of Jharkhand after spending 10 nights here.

2-6 :DECEMBER 18TH 2024 :

The Wildlife authorities were unsure whether to tranquilize the tigress. The tigress had no adequate prey from December 14th and became weak. The Tigress countered the operations of wildlife authorities with stealth and stayed in the same area just out of reach. Tigers (Like Zeenat) thrive on resilience.

2-7 :DECEMBER 20TH 2024 :

Tigress Zeenat crossed into West Bengal's Jhargram forest. The authorities were on the edge fearing that it may stray too close to densely populated areas. But the tigress moved quietly avoiding people and their villages treading challenging rugged landscape with love and zeal. The authorities failed to trace trail of Zeenat and utterly failed in their efforts inspite of deploying searchers in all directions. But Zeenat tigress moved swiftly through the dense under growth careful not to get too close to human settlements.

2-8 :DECEMBER 21ST 2024 : The tigress moved to BELAPAHARI range in Jhargram, a pit stop.The authorities are still failing to trace the trail of the tigress as they were unable to pop out the tigress's next move. The tigress was always moving and always out of reach.

2-9 :DECEMBER 22ND 2024 :

The tigress moved to PURULIA district Bardwan 50km away from the previous spotting. The present terrain is hilly, undulating and perfect for keeping out of sight. The authorities made herculean efforts to trail the tigress through the treading collar but failed miserably as it was not easy when the land was this tricky. The tigress was careful in staying away from villages focusing on wildlife around. Will the tigress Zeenat return to Similipal? Perhaps! But for now, tigress Zeenat's adventure into wild continues.

3-0 :CONCLUSION :

Since ZEENAT tigress had reached Purilla, it was thought that she may follow elephant route back to Similipal. Elephants from Jharkhand and Bengal travel throughPurilla elephant corridor to Odisha'sBalasore and Mayurbhanj where Similipal is located (as per esteemed opinion of Sri AnupNaik, former member secretary NTCA (National Tiger Conservation Agency)).

3.1 LATER DEVELOPMENTS:

After a 21 day hiatus, Zeenat was tranquilized at Bankura and for a short period kept at Alipore Zoo for observation before she was brought back Simlipal and released in to a soft closure in the southern division in January 2025.

The NTCA asked for a probe in to a possible violation of standard procedures putting a short hold on the relocation of other tigers in Odisha. In March 2025 Zeenat moved to a larger enclosure near the core of the reserve where most other tigers are located.

4-0 : KAKATIYA ZOOLOGICAL PARK TO ADD 2 TIGERS TO ITS ATTRACTIONS :

A pair of tigers will be the newest attraction at the Kakatiya Zoological Park (KZP) in Hanumakonda. The 15-year-old female tiger, Kareena, and the 10-year-old male tiger, Shankar, were shifted to their new home from the Nehru Zoological Park in the city (Hyderabad).

An amount of ₹70 lakh was spent on creating the enclosure for the tigers and the duo is warming up to their new home. "Considering the cold this winter, we have also placed water heaters and made arrangements to keep the tigers warm," Hanumakonda district forest officer (DFO) B.Lavanya told.

The pair was picked from the 22 tigers in the Nehru Zoo-logical Park, and sent to KZP. "The tigers have got accustomed to their new place,", said the DFO.

Though Kareena and Shankar are a pair, they arenota'couple'. "For physical intimacy, both tigers should be comfortable with each other. There should also be a psychological bonding between them," a forest official said."Both the tigers were born at the NZP. It will not be a problem for them to adjust to a new place, but their behaviour should be observed," said NZP curator J Vasantha.

The tigers were transported to Hanumakonda on Dec 2, 2014.Before that, animal keepers from KZP were trained in how to take care of the tigers.Kareena and Shankar will also be available for adoption in due course. The adoption fee for each tiger is ₹3 lakh per year. The single leopard at Hanumakonda has also been adopted. The 'adoption' of the tigers can also happen for shorter periods of time, depending on how much individuals or corporates want to spend.

The author is a Retd DFO of combined Andhra Pradesh. Mobile No.8125325399, 9347593393.

Birthday Greetings

We wish the following born on the dates mentioned

"A VERY HAPPY BIRTH DAY"

S.N.	Name of the Member	D.O.B.
Sarvasri		
1.	O. Subramanyam	08-10-1945
2.	U. Govind Rao	08-10-1953
3.	R.D. Venkateshwarlu	13-10-1960
4.	R.K. Rao	20-10-1935
5.	V. Ranga Rao	20-10-1945
6.	N. Venkatramnarsaiah	20-10-1954
7.	C.P. Vinod Kumar	21-10-1963
8.	Lokesh Jaiswal	22-10-1963
9.	C. Subba Rao	24-10-1943
10.	B.M. Swamy Das	24-10-1954
11.	Dr. G. Narsaiah	24-10-1957
12.	K. Murali Krishna Rao	29-10-1940
13.	K. Appala Narasiha Chary	03-11-1961
Sarvasri		
14.	Y. Madhusudan Reddy	04-11-1963
15.	D. Nagabhushanam	05-11-1955

S.N.	Name of the Serving Officers	D.O.B.
Sarvasri		
1.	P. Krishnamachary	07-10-1964
2.	M. Ashok Kumar	13-10-1965
3.	D. Sudhakar Reddy	14-10-1966
4.	Smt. P. Rajeshwari	21-10-1963
5.	G.A.P. Prasuna	21-10-1979

- SECRETARY

Any Omissions and Commissions in the Names / Dates may kindly be informed to the Editor over WhatsApp or Email.

Beyond Forest Boundaries: Policy Directions for Scaling Trees Outside Forests

R. K. Sapra, IFS (R)

With the implementation of National Forest Policy-1988, forest management in India while ensuring conservation of Recorded Forest Areas (RFAs) to secure the country's ecological security, has shifted its focus towardsgreening areas outside forests. Consequently, timber production from government-managed forests has steadily declined—from 100lakh cubic meters in the 1970s to 40 lakh m^3 in the 1990s, 31.8 lakh m^3 in 2017, 17.5 lakh m^3 in 2019, and 15.6 lakh m^3 in 2020 (Dhiman, 2025). In this changing context, the significance of Trees Outside Forests (TOF) has grown manifold. TOF is found in diverse formations in the rural and urban landscapes in the country like small woodlots, block plantations, strip plantations along roads, canals, bunds, etc., and scattered trees on farmlands, homesteads, community lands and in urban areas. TOF plays a significant role in the livelihood of people of the country both economically and ecologically. They make critical contributions to sustainable agriculture, food security and diversification of household economies. They supplement the benefits of forests by providing provisioning, regulating, supporting and cultural and religious services to the local communities. They are an important source of carbon sequestration and major source of wood for wood-based industries.

Area under Trees Outside Forests

Forest Survey of India (FSI) has broadly divided TOF into two categories, TOF (Rural) and TOF (Urban). The block plantations of one ha and above are mapped under forest cover with the help of satellite imageries, while block plantations of less than one ha and scattered trees are assessed through sampling techniques and counted under tree cover. Hence, the extent of TOF therefore may be estimated as the sum of extent of forest cover outside the RFAs and tree cover. Agroforestry is one of the major components of TOF.

According to the India State of Forest Report (ISFR) -2023, the total extent of area under TOF in India is estimated at 307 lakh hectares (9.3%), of which 128 lakh hectares are under agroforestry—constituting about 42% of the TOF and 3.9% of the geographical area of the country (FSI, 2023). As shown in Table-1, the Southern, Northern and Eastern regions lead in extent of area of TOF across India, out of which theNorthern and Southern regions also lead in area under agroforestry, but the productivity of commercial tree crops is quite high in Northern region due to alluvial soils as compared to the Southern region. About 5.4% of the geographical area of India falls into the "Others" category which consists of areas of TOF (Urban) and TOF (Rural) excluding agroforestry. As per table-1, the regions that lead in TOF coverage also dominate in this category. However, the extent of area of “Others” category in theNorthern region is lesser than the areas of this category inSouthern andEastern regions as it is intensively cultivated under agricultural crops due to its higher fertility.

According to ISFR-2023, the top three states with larger areas under TOF are Maharashtra, Odisha, and Karnataka. In addition to the above states excluding Odisha, Rajasthan, Uttar Pradesh and Gujarat also feature prominently under

Table- 1.Extent of Regional Areas under TOF in India (2023)

Region	Geographical Area (lakh ha)	TOF Area (lakh ha)	%	Agroforestry Area (lakh ha)	%	Others Area (lakh ha)	%
Central	443	37.9	8.6	13.3	3.0	24.6	5.5
Eastern	436	61.4	14.1	20.1	4.6	41.3	9.5
Northern	1011	63.4	6.3	30.9	3.1	32.5	3.2
North-eastern	253	30.3	12.0	12.4	4.9	17.9	7.1
Southern	636	71.0	11.2	28.4	4.5	42.6	6.7
Western	508	43.0	8.5	22.4	4.4	20.5	4.0
Total	**3287**	**307.0**	**9.3**	**127.6**	**3.9**	**179.4**	**5.5**

agroforestry. In the "Others" category, Jharkhand and Jammu & Kashmir have emerged as new leading contributors alongside the existing top states of TOF. According to ISFR-2023, between 2013 and 2023, the area under TOF in India increased by 37 lakh hectares—a 14% rise—while agroforestry alone expanded by 21 lakh hectares, marking a 20% increase. Hence, agroforestry played a major role in increasing the extent of area under TOF (FSI, 2023). The overall increase in TOF area from 2013 to 2023 has been significantly contributed by Maharashtra, Karnataka, and Odisha. In Gujarat, the major decline of -1.2 lakh ha in TOF area during this period, is a matter of concern.

Growing Stock under Trees Outside Forests

As per Table-2, there are 1,082 crore trees under TOF, of which 829 crore fall under agroforestry. The total volume of trees under TOF is 195 crore m^3, with 129 crore m^3 attributed to agroforestry (FSI, 2023). According to the ISFR-2023, Maharashtra recorded the highest growing stock in TOF, followed by Karnatakaand Madhya Pradesh. In comparison, the estimated growing stock in TOF for 2013 was 148 crore m^3, indicating an overall increase of 47 crore m^3 (31%) over the decade. Maharashtra showed the largest increase in TOF growing stock, followed by Chhattisgarh and Karnataka. In contrast, significant declines were observed in J&K, Gujaratand Arunachal Pradesh during this period (FSI, 2023).

Although agroforestry covers only 42% of TOF area, it contributes significantly to the total number of trees (77%) and theirvolume (66%). The average tree density under TOF is 352 trees per hectare, whereas agroforestry areas exhibit a much higher density of 648 trees per hectare. This indicates higher productivity and shorter harvesting cycles for tree crops in agroforestry systems. In contrast, the remaining 58% of TOF area, categorized under "others," contributes less to both number (23%) and volume (34%) of trees. These areas typically fall into two categories : (i) those mainly used for harvesting non - timber forest products in IOF

Table-2. Distribution of Trees Outside Forests in India

Particulars	TOF	Agroforestry	%	Others	%
Area (lakh ha)	307	128	42	179	58
Trees (no. in crore)	1082	829	77	253	23
Volume of Trees (crore m^3)	195	129	66	66	34
Volume/Tree (m^3)	0.18	0.16		0.26	
Volume/ha (m^3)	63.5	100.8		36.9	
Trees/ha (no.)	362	648		141	

(Rural), and (ii) those mainly aimed at environmental conservation in TOF (Urban). As a result, the average volume per tree in this category is more (0.26 m^3) than that in agroforestry (0.16 m^3), reflecting longer growth periods and larger individual tree sizes.

According to ISFR-2023, the top ten species as per the volume of TOF in India are Mangifera indica (aam), Azadirachta indica (neem), Madhuca latifolia (mahua), Cocos nucifera (coconut), Tamarindus indica (imli), Acacia arabica (kikar), Borassus flabelliformis (palmyra palm), Butea monosperma (dhak), Shorea robusta (sal) and Ficus benghalensis (barh). Among these, aam, neem, coconut, kikarand dhak appear in the list of top ten agroforestry species in 2023 also. Of these,only aam and coconut are classified as horticultural species, while barh holds high ecological significance for its cultural value and its role in supporting wildlife.The remaining seven species are multipurpose trees commonly used by local communities in their daily lives. However, the potential of these multipurpose species remains underutilized, primarily due to poor management practices and the lack of genetic improvement efforts aimed at enhancing their productivity.

Potential Production of Industrial Wood

ISFRs have been consistently reporting the potential industrial wood production from TOF in its biennial assessments. These reports show a steady upward trend—from 690 lakh m^3 in 2011 to 915 lakh m^3 per year in 2023. This marks an increase of 225 lakh m^3 (30%) over the estimates reported in the ISFR-2017 and accounts for approximately 85% of India's industrial wood demand (Sapra, 2025a). The regional contribution to industrial wood production from TOF is detailed in Table- 3.

Table-3. Potential Production of Industrial Wood in India

Region	Geographical Area (lakh ha)	TOF Area (lakh ha)	(%)	Production of Industrial Wood (lakh m³)	(%)
Central	443	37.9	8.6	128	14
Eastern	436	61.4	14.1	136	15
Northern	1011	63.4	6.3	256	28
North-eastern	253	30.3	12.0	52	6
Southern	636	71.0	11.2	170	19
Western	508	43.0	8.5	173	19
Total	**3287**	**307.0**	**9.3**	**915**	**100**

The highest industrial wood production is recorded in theNorthern region (256 lakh m³), attributed to high soil fertility, progressive farming practices, and widespread adoption of clonal forestry. Conversely, theNorth-eastern region reports the lowest production (52 lakh m³), mainly due to shifting cultivation practices. Interestingly, the Western and Southern regions show comparable wood production levels despite the Southern region having a significantly larger TOF area as compared to the former region. This disparity may be explained by this region's focus on tree conservation, a higher proportion of urbanized areas, prevalence of longer rotation crops, harsher climatic conditions, and relatively lower soil fertility. The Eastern and Northern regions have comparable area under TOF, but the wood production in the Eastern region is almost half of the wood production in the Northern region, which indicates that the Eastern region has a lot of potential in increasing its wood production through promoting cultivation of commercial tree crops. According to ISFR-2023, the top three states in terms of industrial wood production from TOF are Maharashtra, Uttar Pradesh, and Madhya Pradesh.

Agroforestry is primarily practiced for commercial purposes and thus constitutes the major source of industrial wood. However, due to small landholding sizes, most farmers grow only small-diameter timber. Consequently, mediumand large-diameter timber is often imported to meet domestic requirements. India remains a net importer of wood and wood-based products, with imports valued at ₹77,169 crore (1.5% of total imports) in 2022–23 (Dhiman, 2025).

Actions Taken

To promote TOF, the Ministry of Environment, Forest and Climate Change (MoEFCC), along with various State Forest Departments (SFD), has undertaken several initiatives and implemented several programmes:

Ministry of Environment, Forest and Climate Change

The MoEFCC is currently implementing the National Afforestation Programme (NAP) to carry out plantations in rural areas. In response to deteriorating air quality, the Ministry launched

the National Clean Air Programme (NCAP) in 2019, targeting 102 non-attainment cities. This programme includes the promotion of large-scale plantation drives in these urban areas. Additionally, the Nagar Van Yojana was introduced, with a goal of developing 400 Nagar Vans and 200 Nagar Vatikas during the period 2020–21 to 2024–25 (Sapra, 2025b).

State Governments

State Forest Departments have implemented various plantation schemes on panchayat/ community lands, farmlands, and sacred groves across the country. Wood-based industries have also contributed by promoting commercial tree crops to meet their raw material needs. States such as Haryana, RajasthanandTelangana have successfully implemented greening programmes like Green Haryana, Green Rajasthan, and Telangana Ku Haritha Haram, respectively. Furthermore, successful city greening models have been executed in Bengaluru, Chandigarh, Delhi, Gandhinagar, andHyderabad (Sapra, 2025b).

Viksit Bharat@2047

To realize the vision of Viksit Bharat@2047, an accelerated pace of development is essential. A key component of this vision involves doubling wood production (2,000 lakh m^3) by enhancing the productivity of commercial tree crops and expanding the area under TOF. This will support the growth of wood-based industries and help meet the country's increasing demand for timber and wood products. Additionally, improving the management and quality of multipurpose tree species will enhance the production of Non-Timber Forest Products (NTFP). These products not only fulfill the needs of local communities but also offer potential for export, contributing to foreign exchange earnings.

Recommendations

To achieve the objectives of Viksit Bharat@2047, the following recommendations are proposed:

Forest Survey of India, Dehradun

- The ISFR Volume I should be split into two distinct parts: one for RFAsand another for TOF areas.
- TOF achievements should be reported separately as TOF (Rural) and TOF (Urban).
- The reliable estimation of industrial wood production from TOF should be reported, which may be used to support licensing of wood-based industries.
- ISFR should include dedicated chapters on agroforestry and urban forestry.
- Tree cover data should be reported at the district level to help identify districts lacking adequate forest and tree cover.
- The analysis of urban green cover in ISFR should be expanded to include the 102 non-attainment cities identified under the National Clean Air Programme (Sapra, 2025b).

Ministry of Environment, Forest and Climate Change

- The current initiative of "Har Med Par Ped" should be scaled up significantly to double the production of industrial wood and increase NTFP output.
- A dedicated programme for "Greening the Cities" should be launched to enhance urban green cover. This initiative could integrate existing campaigns such as "Ek Ped Maa Ke Naam" to maximize its impact (Sapra, 2025b).

State Governments

- Identify potential districts for the cultivation of commercial tree crops, supporting the development of wood-based industries.

- Include tree-resource-deficient districts under the Aspirational Districts Programme to prioritize development and greening.
- Promote the development and value-addition of multipurpose trees to enhance NTFP production and generate rural employment.
- Launch a special conservation scheme for naturally occurring tree species such as Jand, etc.
- Encourage resource convergence among Urban Local Bodies, Town and Country Planning Departments, and Forest Departments for greening of urban areas. The Forest Department, owing to its technical expertise, should be designated as the lead agency for implementation (Sapra, 2025b).
- Urban green space regulations should be modeled on the best practices followed in cities like Delhi and Chandigarh (Sapra, 2025b).

Conclusion

Green spaces are critical to the ecological and socio-economic sustainability of both rural and urban areas. In rural regions, they meet local needs, boost farmers' income, and create employment opportunities. In urban contexts, they provide climate resilience, enhance aesthetic value, and help mitigate heat island effects. Green spaces also serve as carbon sinks, contributing to environmental health and community well-being. A focused, integrated, and sustained commitment to urban and rural greening is essential for mitigating air pollution, adapting to climate change, and ensuring livable environments. By leveraging the potential of TOF and enhancing NTFP value chains, India can make significant strides toward a Viksit Bharat@2047. Beyond their economic contributions, TOF resources are vital in confronting global ecological challenges and strengthening climate resilience.

References

1. Dhiman, R. C., 2025: Pramaan to Parinaam, The Ply Reporter, August 2025

2. FSI, 2000: Trees Outside Forest Resources in India, Forest Survey of India, Dehradun

3. FSI, 2013: India State of Forest Report, 2013, Forest Survey of India, Dehradun

4. FSI, 2023: India State of Forest Report, 2023. Forest Survey of India, Dehradun

5. Sapra, 2025a: Trends and Dynamics of Agroforestry in India, Van Premi, August 2025, Hyderabad

6. Sapra, 2025b: India's Urban Green Cover: An Urgent Need for Expansion and Monitoring, Van Premi, September 2025, Hyderabad

The author is a retired Indian Forest Service Officer , M-98762 00784

Answers: 1.Ejiao,2.Humpback Whales,3.Geological Survey of India (GSI);4.Valparai model of virtual fencing with solar powered infrared sensors ,5. Ahiravana, 6.Glycerol, 7.Mexico, 8.Lady Hastings; 9.Tail is the last to stop moving, 10. National Action Plan on Snake Bites (NAPSE).

For School Students: 1.Japan (India and China have Wheat also as staple food), 2. Guru Dutt, the famous film director, 3. SthanarthiSreekuttan, a Malayalam film of VineshVishwanath, 4. Liberia, capital Monrovia named after James Monroe, 5. Crepuscular

SMALL MODULAR NUCLEAR REACTOR USING THORIUM-232

Sri.B.K.Singh, IFS (R)

Thorium (Th–232), when converted to Uranium (U–233), offers a chain reaction with hundred-times higher energy density than conventional U-235. Bhabha Atomic Research center (BARC), in collaboration with the Nuclear Power Corporation of India Limited (NPCIL), is engaged in developing Small Modular Reactors (SMRs) that use small quantity of fuel (Th-232) and has the potential to power an entire district. These reactors are advanced nuclear systems designed to generate up to 300 M We. The symbol M We, is a unit of power specifically one million watt of electricity. Reactors are quite handy and can be fixed in remote regions easily. It can also be utilized in industrial clusters and disaster resilient infrastructures.

In all ongoing nuclear power generation, natural Uranium is used as fuel and only 7% of it is U-235. Thus, 1 Kg of Uranium has 70 gram U-235 and remaining 930 grams is a waste. This can generate energy equivalent to thermal energy from coal contained in two goods train each with 50 bogies. Such is the power of Uranium; it generates huge energy, but also generates wastes, and we have to take precautions against leakages.

IEA's Nuclear Report suggests, "Global SMR market is projected to grow from $5.8 billion in 2022 to over $18 billion by 2030. Scientists worldwide have popularized the technology of generating nuclear power using U-235. Not many countries have rich Uranium deposits. Even America is importing Uranium from Russia to meet the requirement for defense purposes as well as for power generation. Scientists have worked to develop Small Modular Reactors (SMRs) for power generation using Th-232 as fuel and the works have started bearing the fruits in recent months. China, India, Japan, UK and USA have demonstrated enthusiasm for research in application of Th-232 in nuclear power generation for two three decades.

Th-232 is silvery, slightly radioactive metal commonly found in igneous rocks and heavy mineral sands. Th-232 is three to four times more abundant in nature than U-235. According to estimates, earth's upper crust contains an average of 10.5 particles per million (ppm) of thorium compared with 3 ppm of uranium. Also thorium fuelled reactors could be much more environment friendly as compared to uranium fuelled. Th-232 is the only naturally occurring isotope of Thorium, is a fissionable material, but not fissile one. That means, it needs high energy neutron to undergo fission. High energy neutron can bombard Th-232 nuclei and release energy that can be used for electricity generation.

India had three stage nuclear programs; in stage I, power has been generated using natural uranium. Stage II involved fast breeder reactors that used Plutonium (Pu) based fuel, and stage III employs advanced Th-232 based reactors that utilize U-233 produced from Th-232. India has reached stage III, with the last month announcement from engineers of Bhabha Atomic Research Center (BARC) that they developed small nuclear reactors that can supply electricity to entire district, with a small quantity of 200 Kg of Th-232, for 14 years.

A Thorium fuelled reactor needs a critical quantity

of existing fissile material namely U-233, U-235 and Pu-239 to begin the process. Twenty Metric Tonnes of Pu-239 would be used in fast breeding reactor at Kalpakkam, which is nearing completion, to drive Th-232 in the chain reaction. The use of Pu-239 to drive chain reaction in Th-232 can be understood with this illustration. A wet wood would not catch fire. However, if it is put on burning coal, it dries up and starts burning. If the initial quantity of coal is adequate,(above the critical mass), then it can initiate a chain reaction and any quantity of wet wood would go on burning.

The initial fissile material is the driver that provides initial neutron to make fertile Th-232 to convert into fissile fuel of U-233. The conversion process can be understood in the following steps.

1. Th-232 (atomic number 90) captures a neutron to become Th-233 (atomic number 90)

2. Th-233(atomic number 90) goes for beta decay to become Protactinium (Pa-233) (atomic number 91)

3. Pa-233 (atomic number 91) too, goes for beta decay and becomes U-233 (atomic number 92)

U-233 produced can sustain nuclear fission chain reaction. Thus, it can generate more neutrons, which can then convert more Th-232 into U-233, effectively breeding more fuel. Nuclear reaction that generates energy is as below;

U-233 (atomic number 92) + 1 neutron -> U-234 (atomic number 92) -> Sr-94 (atomic number 38) +Xe-137 (atomic number 54) + 3 neutron + 197.9 million electron volt (MeV) of energy. It is to be noted here that U-234 is unstable and fission takes place quickly.

Thus each atom of Th-232 provides 197.9 MeV of energy. One kilo mole of Th-232 weighs 232 Kg and has atoms equal to Avogadro number (6.02 x 10 to the power 26). Thus 232 Kg of Th-232 generates 1.9 x 10 to the power 16 Joule of energy. Assuming an efficiency of 33% and 40 MW of power are consumed in a district per day, 232 Kg of Th-232 can sustain the district for five years.

In the warming world, when our lives and livelihoods are disrupted by frequent climatic catastrophes, we are transitioning away from fossil fuel consumption. Apart from solar and wind energy, the focus is also on nuclear energy. India is a fast growing developing economy, and there is gradual surge in power demand. The use of AI chips and electric vehicles etc. also add to the surge. Our present power consumption in a day is 500 Giga Watt (GW), which would be 700 GW by 2030. At present, the share of nuclear power is only 4%. The country is marching ahead to cut emissions from fossil fuel, and only 25% of our power requirement at present comes from solar sources.

It takes ten years to construct and establish nuclear power plant, while it does not take even ten months to establish a solar power plant. However construction of SMRs would be quicker. The biggest bottleneck of solar energy is the storage for use during nights. The storage technologyis quite expensive and also generates wastes that are pollution hazard. Further technological advancements may find the solution. Small Modular Reactors that uses Th-232, as developed by BARC is quite significant in cutting our dependence on fossil fuel consumption. Here too, we need to take precautions against radioactive leakages.

(The writer Sri.B.KSinghis aformer Principal Chief Conservator of Forests (Head of Forest Force) Karnataka and postgraduate in Physics. Inputs for this article from his postgraduate Physics class fellow&ex-Prof Physics,RamjanmPrajapati, are gratefully acknowledged)

Green Quiz – JuLY 2025

Quiz Master: Dr. K. Tirupataiah, IFS (R)

1. About 6 million donkeys are slaughtered per year to use Collagen from Donkey's skin to produce a Chinese medical product used as a health supplement. Name it.

2. Which sea animal migrates in the winter from their feeding grounds in Antarctica to the tropical breeding grounds off Australia's East coast, sometimes stopping water traffic (shipping)?

3. There are 35 Geological Heritage Sites in India that have unique geological formations. Which institution recognizes, declares and maintains such sites?

4. This model initiative by the Tamil Nadu government brought down human deaths due to Elephants to Zero and Elephant damage incidents from 75 to 11. The system detects and alarms Elephants within 100 M. Name the model.

5. In Ramayan, whose soul is protected in the shape of five Butterflies? He abducts Rama and Lakshmana to Paataalalok and Hanuman kills the abductor.

6. What commercially useful byproduct is obtained while producing bio-diesel?

7. In San Pedro Huamelula town in a North American nation, the Mayor marries an alligator in a symbolic wedding that goes back more than 230 years of tradition between indigenous people of Chontal and Huava. Name the country.

8. Named as "Botanical serial killer', water hyacinth was brought to India by the Lady of a Governor General. Rest is havoc. Name the Governor General.

9. The Russell s viper doesn't have eye lids. How does a veterinarian know that it is knocked out by the anesthesia?

10. What action plan, launched in 2024, makes snake bite as notifiable disease?

For Students

1. Which is the only Asian country to have only Rice as its staple food?

2. What is the more popular name of Vasant Kumar Padukone?

3. A single-row circular classroom seating arrangement in this film inspired many to adopt it as a measure of equality in classrooms. Name the film.

4. Which African country has its capital named after a former President of the USA?

5. What are creatures active at "twilight" (Dawn or Dusk) called?

Answers on page no : 51

Yesterday is a memory, tomorrow is a mystery and today is a gift. Which is why it is called the present. What the caterpillar perceives is the end; to the butterfly is just the beginning. Everything that has a beginning has an ending.Make your peace with that and all will be well. Buddhist Saying.

LEGAL NOTES

K. Buchiram Reddy, IFS (R)

M/s Sri Pulaji Industries Vs. The State of Telangana&Ors

(Compounding a case and Cancellation of License is Double Jeopardy)

Sri L.Rajeshwar obtained License, in 1996 under the Forest Produce (Storage and Depot) Rules 1989, to run an industry under the name M/s Pulaji Industries, in Khanapur, the then Adilabad district (now Nirmal district). The License was renewed year after year till 2015. When the License was withdrawn, the petitioner filed W.P. No. 41647 of 2015 and obtained interim order dated 22.12.2015 to continue work-shop activity, subject to the condition that accounts are maintained in Form 3-A and 3-B of the relevant rules. The License was renewed upto 2019. When an application was made on 25.04.2020 for further renewal, there was no response.

On 01.08.2020, Respondent -5 (D.F.O) issued a notice to the Petitioner calling for explanationfor the excess unaccounted timber 179/0.441 cmt found on inspection of the premises of the petitioner by the Dy.R.O. The petitioner submitted explanation to Respondent-5 (D.F.O) on 08.08.2021. Not satisfied with the explanation,the D.F.O levied compensation of Rs.65,166/- . An appeal against the order of the DFO was filed before Respondent-3(C.F). During the pendency of the appeal before the Respondent-3,the petitioner filed W.P. No. 8803 of 2021 for not renewing the license. The court ordered on 03.06.2021 to consider the application of the petitioner for renewal of the license within four weeks. The appeal before the Respondent-3 was eventually dismissed.

The D.F.O, without considering the matter of renewing the license issued a notice on 13.06.2021 and directed the petitioner to pay the amount of compensation so as to consider the application for renewal of license.The amount of compensation amounting to Rs. 65,166 was paid on 07.07.2021. Even then, the license was revoked by an order dated 20.11.2021. The order of the D.F.O, prima facie results in double jeopardy which is without jurisdiction and is against law.

In the facts and circumstances of the case, the court wanted to consider the case based on the following case laws:

1. Ch. MuthaiahVs. D.F.O Khammam- 1 2012 (5) A.L.D. 414. In this case, the offence was compounded and yet the sawmill license was cancelled.

2. D.F.O. Karimnagar East division Vs. Lachi Reddy. In this case, the offence was compounded and yet the contract was terminated.

In the above said two cases it was held that the order of composition effaces the offence and the same set of facts should not give rise to any other and further action against the person or property.

Following the aforesaid twojudgments, the court wanted to decide the case on consideration of the following two Points:

1. Whether the impugned order dated 20.11.2021 is valid;

2. Whether the petitioner is entitled to any relief.

In the result the writ petition is allowedby the Hon'ble Justice Sri J. SreenivasaRaoon 28.02.2023, the impugned order of the DFO is set aside.The respondents are directed to consider the application for renewal of the license.

The author is Dy.C.F (Rtd). He is on Phone 966 609 7788; and E-mail ID ; keesrabuchiram@gmail.com

RENDEZVOUS WITH A NONAGENARIAN

K.B.R. Reddy, IFS (R)

In the Birth Day Greetings column ofthe September issue of VanaPremi,Sri.A. Raja Reddyis shown to have been born on 13.09.1926. Looking at this,Sri.D.Nagabhushanam (Associated editor) and B.M. Swami Dass(Secretary of the association) suggested that we should celebratethe event of his 99th Birth Day.

I consented immediately and said that we should celebrate. Sri.QamarMohd Khan, Sri. RamanGowdand of course Sri.SwamiDass and Sri. D.Nagabhushanamformed the team. Our destination was Balaji Enclave, Transport Road inSecunderabad.Our time fixed was 6.00 p.m. While others went separately in two cars, I wanted to go in my car along with Sri.Nagabhushanam. But for reasons beyond our control, we were delayed. It became dark and there was drizzle. None of usknew the route. We were determined and reached with some delay. Dr. G. Bal Reddy, son-in-law of Sri.Raja Reddy, and a number of relatives were waiting for us. It was drizzling still and I thought bounteous Mother Nature is coming down to bless Raja Reddy.

Raja Reddy had his training at Madras Forest College during 1951-'53 and I belong to 1954-'56 batch. My date of birth is 07.07.1932. Age wise, I am 6 years younger and in forestry training I am 3 years behind. It is a custom in forest service,ordinarily to respect seniors and the seniors love the juniors.They are a source of guidance.

At the residence of Dr. Bal Reddy, we were received with warmth, love and affection. Our colleagues are already there. Of Course, Raja Reddy, hale and hearty at 99 -- unlike me (no stick, no walker and no wheel chair), received me with a hug. In a few moments, a beautiful Birthday Cake was placed on the table and the, 'Birthday Boy' was to cut the cake. We all stood around while Raja Reddy with a knife in his hand was ready to cut the cake. The cutting of the cake took place while all of us sang in chorus- the HAPPY BIRTHDAY SONG. All of us were entertained with sweets and many tasty eatables.

All my colleagues took leave of the hosts and said good- bye to the good hosts, while Nagabhushanam and I stayed back for reminiscing our past. My friendship with Raja Reddy began in 1956 while I was one partner in preparing the Working Plan for Palvancha division and Raja Reddy was Range Officer, Palvancha. We used to meet at Kothagudem. Afterwards we met at many places and we have many pleasant memories. To put them all together on paper, it would be lengthy and voluminous. I would like to recount in this write-up what had taken place in the last part of his service in two divisions as D.F.O, one in Mancherial division and another in Adilabad division-both in former Adilabad district.

While working as D.F.O, Mancherial, days passed peacefully until a case of large scale felling of teak trees was detected by Sri. J.V. Sharma, Flying SquadD.F.O based at atNirmal. The resultant teak timber was illegally transported to Hyderabad under false permits. G.V. SudhakarRao, ex-Minister in the State Cabinet was alleged to be

behind the illegal felling and transport of timber to Hyderabad city. J.V. Sharma with the assistance of Hyderabad Flying Squad D.F.O,G.K. Reddy organized a raid and seized the timber. Felling of teak trees occurred in the forests of Mancherial as well as Jannaramm divisions. For these illegal fellings,efficiency and administrative ability of Raja Reddy were questioned. In view of a satisfactory report, no harm was done to him but he was transferred and posted as D.F.O, Adilabad. As for the action against G.V. SudhakarRao, there was prolonged litigation and the matter went up to Supreme Court. The Supreme Court judgment – D.F.O vs. G.V.SudhakarRao – has become a case law,published in Law Journals.

At Adilabad, Raja Reddy was confronted with a knotty and hard-nut Sitagondi case which nobody could resolve during the past several years.It has a hundred year old history.Raja Reddy approached the Conservator of Forests and suggested to get my services so as to get over the ticklish problem. I was at the time working as Assistant to the Chief Conservator of Forests in the Head-Office. I was permitted by the CCF,Sri.P.S. Rao, to go to Adilabad and help the D.F.O to resolve the issue. After reaching Adilabad, I perused the head office file as well as division office file and found it is really a hard-nut to crack and the problem will get me down. I was stead- fast in my determination and Raja Reddy was equally zealous. I got all other files on the subject and prepared notes on the subject.

Sitagondi was an ijara village and the ijara lease was granted to one Sundarlal in 1286 Fasli. At the end of the lease period, it was found that conditions of lease were not complied and therefore land was restored to Government, leaving cultivated land of about acs.500 in favour of ex-Ijaradar. But the Revenue staff in collusion with the ex-Ijaradarmade entries ofpatta of all lands, ignoring the fact that major portion of the village was proposed to be constituted as reserved forest.

In 1961 an Act was passed by the State Government to cancel all pattas if the patta lands are in reserved forest or in proposed reserved forest. The Tahsildar was the statutory authority to pass order under the Act.But the Tahsildar, Adilbad without notice to the Forest Department, passed orderstating that the lands are in possession of the pattadareven when the lands are covered by forest notifications and are being protected by the forest staff.

The successors of ijaradarRenuka Das and his son Om Prakash were moving heaven and earth to grab thousands of acres of forest.As many as five writ petitions were filed against theForest Department.They almost succeeded. We did not allow the matter to gooff the rail. The Government was requested to take up suomotu revision under Act 36 of 1961 against the order of Tahsildar. The Minister for Forests heard the parties and held that the lands are in possession of the Forest Department and passed a 20 page order dismissing the claim of the successors of the ijaradar.

The 20 page G.O. was upheld by the Andhra Pradesh High Court. Thus the 100 year old case pursued by three generations ended up in favour of Forest Department.I must t admit that during ourstruggle, the Adilabad Range Officer K. Hanmanth Reddy rendered valuable service indeciphering the old Urdu documents.

The rendezvous of 99th birthday of Raja Reddy ended with pride and joy.

MAY HE LIVE LONG WITH HEALTH AND HAPPINESS!

Obituary

Late Sri C. Sammi Reddy, IFS (R)

DOB: 01-05-1951
DOD: 26-09-2025

Sri. Chandupatla Sammi Reddy s/o C.Raja Reddy was born on 1st May 1951 in Chandupatlavada, Velisala/Parkala of erstwhile Warangal District. After initial studies he joined the prestigious Regional Engineering College (now NIT) Warangal for his B.Tech. Later he completed his M.Tech (Chemical Engineering) from IIT Delhi.

He was selected to the Indian Forest Service in 1977. After completing training at the Indian Forest College (IFC) and LBSNAA Mussoorie, he joined as ACF (U/T) at Ananthapur. His first district post was as the DFO Guntur (1980-81). Then he was posted as DFO Chittoor (West) from 1981-83. His services were placed at the disposal of the PR&RD Department and he was posted as PD DRDA Vizianagaram (1983-86), for a brief period as PD DRDA Chittoor and then PD DRDA Karimnagar (1986-87). In PR&RD department, he worked on watershed management projects, Natural resources management and promotion of women self-help groups.

Coming back to the department, Sammi Reddy was posted as DFO Kagaznagar in 1987. He was deputed for three- month training at Oxford University (July-Sep 87). On his return from Oxford, he was posted as DFO Karimnagar (W)(1987-88). He underwent Orientation Training at IGNFA during sept-oct 1988 and on return, joined back as DFO Karimnagar (W)(Oct 88-Jun 89). On promotion as CF, he was posted as CF (SF) Cuddapah (1989-91),CF Rajahmundry (1991-94) and CF Ananthapur (1994-95).

Then he was on deputation to the APFDC first as RM Warangal for a short period in 1995 and later as RM Hyderabad (1996-98) and as Addl PCCF/CGM (2003-04). Inbetween, his services were placed on deputation to GAD and posted as Director (NR) Vigilence (1998-2003).

One of the significant contributions made by Late Sri Sammi Reddy while in the APFDC, is the 'Sammi Reddy Technique/Method'. This involved assessment of yield of Eucalyptus plantations before harvesting. Hundred per cent enumeration of all trees in a plantation is done taking GBH. They are classified in to girth classes. Percentage of trees falling in each girth class was rounded-off to the nearest integer. Hundred representative trees are marked, felled and billeted in to one meter long pieces, debarked and stacked. Volume of these stacks is used to arrive at volume for the entire plantation. Volume of pulpwood= Ax Total number of trees/100, where A is the volume of 100 trees in cum. This method avoided loss of weight of pulpwood to almost 30-35% in earlier procedure (between harvesting and actual transport). The APFDC could get Rs.1130/cmt compared Rs.600 earlier. Sammi Reddy method was nominated for the 'PM's award' in 2006. As per Dr.G.C.S.Reddy, the turn around and profit making by the corporation has been mainly due to 'Sammi Reddy method'. Late Sri.Sammi Reddy was very happy and satisfied to know this.

Returning back from APFDC, he was posted as Addl PCCF (Vigilance)(2008-09) and Spl PCCF (Vigilance) till retirement on superannuation in April 2011.

Late Sri Sammy Reddy is survived by his adoring wife Smt.Latha, Sons Dileep and Sundeep , daughters-in-Law and two lovely granddaughters. He was a very jovial person and actively participated in discussions on issues concerning the department, forestry and wildlife. He used to enjoy listening to Jagjit Singh's ghazals and relished traditional homely food.

The association of the retired forest officers of Telangana & Andhra Pradesh conveys its deepest condolences to the bereaved family. We pray to the God almighty to give them strength to overcome this great loss. May Late Sri Sammi Reddy's Soul attain 'sadgati'. Om Santhi, Om Santhi, Om Santhi hi.

Dr.K.Tirupataiah

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