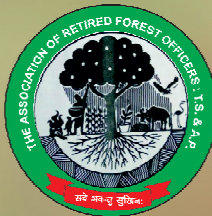


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The Red avadavat couple
(Red munia/ Strawberry finch)
(*Amandava amandava*)

Photo: Sriram Reddy



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Editorial:

Finally! 50 Years Too Late, But Better Than Never!

India imposed a ban on single-use plastics on items ranging from straws, cutlery, earbuds, packaging films, plastic sticks for balloons, candy and ice-cream, and cigarette packets, among other products, to combat worsening pollution in the country whose streets, drains, canals, rivers are strewn with waste. Eventually, 80% of the plastic reaches the oceans killing all types of animals. The ban includes the manufacture, import, stocking, distribution, sale, and use of single-use plastic items, which will be identified as those having low utility and high littering potential. Single-use plastic is the modern-day asbestos. Yes, it is time for a change. Out of 400 million tonnes of plastic waste produced annually, our country shares about 14 million tonnes without an organized system of managing plastic waste, leading to widespread littering. If unchecked, the plastic will be tripled by 2040. In 1964, humans produced 15 million tons of plastic, which increased to 311 million tons in 2014. (U.S. is still producing 15 times more plastic waste than India, even though the U.S. population is just 33 million).

The term plastic was coined in the early 20th century when chemistry became sophisticated enough to describe what was happening with materials that form long-chain polymers. e.g., Lacquerware - Lacquer is a form of plastic that has been used since a couple of millennia B.C. Realistically, plastic is a modern invention. The first completely synthetic plastic was Bakelite, invented in 1909. It was throwaway stuff at the time. Not until well after World War II did plastic begin to come into its own, and remarkable as it seems, the full-blown epidemic of plastic packaging is hardly more than forty years old.

Can we ban the use of plastic completely? Mind you - "Plastic" is not banned; it is "Single-use Plastic" which is banned. The use of plastic is deeply ingrained in our

day-to-day life. Now we can't imagine life without plastic. Plastic is really good when properly managed.

The plastic material is abundant, cost-effective (much cheaper than wood, metal, or glass), easily convertible to any thickness and shape, extremely strong though light in weight, shock resistant, reusable, lightweight, and offers excellent packaging material for food without contamination. But rapid economic growth has fuelled demand for goods that come with single-use plastic products. These plastics are definitely harmful to the environment, oceans, wildlife and ultimately, humans.

Plastics are ruining the oceans! According to the Ocean Conservancy, plastic has been found in more than 60 per cent of all seabirds and 100 per cent of sea turtle species. Microplastics are everywhere! Scientists have found large amounts of microplastic in the intestines of deep-dwelling ocean mammals like whales. Cows are eating them, and it's entering our food chain. We are eating their byproducts, and it will affect us all. Microplastics have even been found in the placenta, which nurtures the baby in the womb.

Should plastic ideally be banned because we don't know how to use it? Well, a ban might eventually allow the plastics in the oceans and other plastic pollution to be cleaned up and eliminated, but at what cost? The only problem with plastics is improper disposal. This is where the world's focus should be. Plastics have uncountable benefits to our world and our lives, and like always, it's people's destructive behaviours that cause problems. We faced garbage gridlocks during monsoon. Our beaches were inundated with trash, much of it plastic: disposable hypodermics, contaminated with God knows what; disposable diapers; plastic lighters; throwaway pens; water bottles etc.

Coming to the difficult part of enforcing the ban - the

Government has decided to set up control rooms to check any illegal use, sale and distribution of single-use plastic products. In a relief to consumers, the Government has for now exempted plastic bags, but it has asked manufacturers and importers to raise the thickness to promote reuse.

Do you think it's possible to live life without plastic? Hemp bags and hemp boxes are more sustainable than plastic. We have jute and cotton bags too. People should carry reusable shopping bags (cloth, canvas), give up bottled water (carry a reusable stainless steel bottle), bring their own (stainless steel) containers for take-out food and leftovers, treat themselves to an edible ice cream cone, cut out sodas, juices, and other plastic-bottled beverages, let go of frozen convenience foods. They should shop at their local shandies/ Rytu bazaars, return egg trays and soft drink bottles to be reused, bring their container for meat and prepared foods, buy fresh bread that comes in either paper bags or no bags, choose milk in returnable glass bottles.

Further, the public should avoid the worst types of plastic (Polyvinyl Chloride (#3 PVC), Polystyrene (#6 P.S.), & Polycarbonate (#7 Other). PVC is found in many products -P.S. contains styrene, which is toxic to the brain and nervous system. P.C. contains BPA. If you must use plastic, make sure it's not #3, #6, or #7 polycarbonate. (Note: #7 is a catch-all for many types of plastic that don't fit into the first six categories. Biodegradable plastic is also labelled #7)

More trees were cut down to make paper bags instead of plastic. No more simple, inexpensive containers for keeping drinking water clean and pure. We need to add chemicals or boil water before use. Boiling uses a lot of energy from burning coal, gas, wood, and charcoal.... So maybe not such a good thing either.

Polythene is the biggest culprit (after us) among all the pollution-causing things. According to the CPCB report, about 66% of plastic waste is mixed waste—polythene bags and pouches used to pack food. Glad that the media is finally educating about single-use plastic. It's worth celebrating and supporting. We've taken so

much from nature; it's time to give it back. Only banning won't be effective. We need to support this ban. This needs to be done on a global scale.

PET bottles are nearly 8% of total plastics. Unlike polythene bags, we do not have a great alternative to PET bottles. If the ban is only for PET bottles less than 500 ml (like in Maharashtra), then there is no point in banning PETs, as only a minuscule amount of PET usage would be reduced.

Another widely used single-use plastic is PVC flex, considered a single-use plastic as the banner is disposed of after use. All in-house and out-of-house advertisements like streetside banners, streetlight boards, and backlit and front-lit displays flex have been the key plastic-based material used for printing. Alternative eco-friendly material made up of fabric has also been introduced to replace such PVC flex display systems.

But most importantly, a ban on producing these plastics is the most effective way to stop their use. Once they leave the factory, no country has the resource to enforce a ban on their use correctly. And plastic will become contraband and continue to be used illegally. Metal scrap used to dominate landfills at one point. Many developed and developing countries have banned single-use plastics decades ahead of us. Announcing the ban is easy; enforcement is the real deal. We know how we are enforcing many policy issues in the country. Better late than never. The big question, though is: How does the govt. plan to enforce it?

Many local and state governments in India took the initiative much earlier but could not implement it properly. In 1997, a magistrate in Kottayam in Kerala banned transparent plastic bags. As far back as 2012, two Indian Supreme Court judges warned that "the next generation will be threatened with something more serious than the atom bomb" in the absence of "a total ban on plastic". The first state to ban single-use Plastics was Himachal Pradesh in 2009. At the beginning of 2019, more than half of India's 29 states and 7 U.T.s had some kind of plastic ban in place.

National Green Tribunal (NGT) in Delhi NCR introduced a ban on disposable plastic like cutlery, bags, and other plastic items amid concern over India's growing waste. The ban came into effect in January 2018. This ban was also shown in the Salaam Bombay movie almost 20 years ago...India is still full of plastic waste. States like Goa, Delhi, Sikkim, Himachal, Maharashtra, and Kerala already have bans. The original nationwide ban was planned for 2019 but got delayed because of covid.

In 2015, the Union government proposed that 5%-10% of non-recyclable plastic be collected and used in building roads. When glass is recycled, we know that bottles and jars are pulverized with virgin raw materials and made into more bottles and jars. Same case with aluminium. That's not what happens in the recycling of plastic. There are two classes of plastics, thermosets and thermoplastics. Thermosets are rigid plastics; they don't flow when reheated, so for all practical purposes, they're not recyclable (once a taillight, always a taillight). Thermoplastics are infinitely malleable, and there are between 500 and 1,000 different kinds. The catch is that the source material must be pure to recycle anything made of any of these thermoplastic resins.

And in places like Bangalore, it was around 2017 when the ban on single-use plastic was imposed more stringently. In one of the top tiers, 5-star Clean city Ambikapur (Chattisgarh), plastic carry bags were banned over seven years ago, and people are so used to having cloth carry bags that it now seems natural to them. They stock and reuse these cloth carry bags as rags for cleaning.

India and China are leading the reuse of plastics through plastics pyrolysis, taking single-use plastics and converting them into fuel for cooking and autos. More money spent in this field may reduce plastic waste and CO2 emissions. Not to mention reducing the amount of imported oil and providing energy independence by producing fuel from waste, self-produced or elsewhere!

If plastic is banned, we need to depend on more paper products so that trees will be cut down; either way, it is harmful to the environment. Promote jute and bamboo,

sal leaf, and earthenware, which will encourage traditional industries. Using bamboo and wood also be avoided; it may increase tree cutting. Bamboo can be grown like crops. Cloth, hemp, jute and paper alternatives are more carbon-intensive but degrade more quickly. Banning single-use plastic should be helpful overall, especially for marine life. Trees grow again. And nowadays, the paper doesn't even come from trees. And even if it comes from trees, they don't cut down a random forest; these companies have their own plantations.

India can't ban the use of plastic; otherwise, India will face an economic crisis. Unemployment will increase. Today aluminium foils and bags made from sugarcane molasses and other natural degradable materials are being produced. Many such companies are cropping up in India.

The enforcement agencies should concentrate on the manufacturing facilities of single-use plastic. How come it will be available if it is not manufactured? Just putting fines of thousands of rupees gives birth to loopholes and corruption. This ban does not stop manufacturers from producing single-use plastics; the products will be disguised as recyclable and still be produced.

If polyethene and PET are banned, nearly 75% of plastic waste will come under control. There are other things like thermocol/styrofoam, which are widely used pollutants. We still don't have an alternative for thermocol. It is thermosetting plastic which can be used only one time and cannot be recycled. But if there is no alternative, the ban won't succeed. For example, thermocol is a great utility item in the construction industry used for thermal insulation; hence an alternative - glass wool, shall be made available at a reasonable price. So is the case with any other item.

India primarily needs to do two things: shift the non-reusable market to reusable and utilise single-use plastic as a source of fuel. We are already using plastic in road construction. Plastic is good fuel for electricity-generating incinerators. We still can't figure out how to dispose of wet garbage without plastic bags. The

garbage trucks don't empty garbage entirely unless the garbage is in a plastic bag.

The Government should reduce the GST of plastic alternatives for some years to encourage the production and consumption of non-plastic alternatives, Provide technical help and training for the jute, cotton, coconut, and bamboo farmers to produce disposable bags at the cottage level, and provide subsidies and technical support for the existing polythene manufacturing companies to produce non-polythene bags like jute bags, cotton bags and other eco-friendly bags, encourage the universities and engineering colleges in India to research more on plastic alternatives. Government should also mass purchase eco-friendly cotton or jute bags from the value-added products sold by farmers, cottage industries and other large industries and distribute them to every family through ration shops (There are 230 million ration cards in India. Hence there would be a monthly requirement of 2300 million non-plastic bags). We must educate the people on the concept of "Refuse, Reduce, Reuse, Recycle, Recover and Dispose" of plastics.

It is just impossible to ban all kinds of plastics. The fact remains that, like in all issues pertaining to civil sense & cleanliness, it is people who have to co-operate and make it a success and Govt alone can't do everything on this. No government can ever succeed in mass movements benefiting society until & unless its stakeholders (masses) take the responsibility of

owning these. There's a phrase: "Change begins at home". Consumer awareness and resistance to the use of banned plastic items must be created worldwide.

Plastic has been demonized and victimized in the worst possible ways. The plastic ban will not significantly change environmental impact without public support and the development of another alternative bioplastic with a defined shelf life and easily degradable from materials such as corn starch and vegetable fats, and oil is made available. We hope and wish that this ban continues forever!!

This time the ban should be strictly followed. Then only it will make any change. Enforcing this necessary ban is a different ball game altogether, especially when the alternatives are hardly in circulation as per the demand. Let's hope that, at least this time, the Government will make a tough call on banning plastics so that it does not affect the mainstream life of common people. It should start with schools, teachers, children, leaders, and employees until it reaches the common man. People are fed up with too much plastic lying everywhere. It's insane...trash outside roads, sidewalks, bushes, drains, streams, rivers, oceans, everywhere. Many people have low I.Q. and laziness syndrome. India still needs to educate the public on littering and landfill management. After Government and media have done their job, it's the people's job to follow it through. Time to do something as an individual too. Let's support each other and Mother Nature!!

- Mohd.Thayyab

NOTICE

The 97th GENERAL BODY MEETING of the Association of Retired Forest Officers of Telangana and Andhra Pradesh will be held on 18th September 2022 (Sunday) at 11.00 AM in Aranya Bhavan, Hyderabad.

All the members of the Association are requested to make it convenient to attend the meeting with their spouses.

- Secretary



Ecotourism Conservation and Community Welfare

P. Mallikharjuna Rao, IFS (Retd.)

My understanding in the past was that ecotourism would be feasible only in the forests where sighting of wild animals especially some mega fauna like tiger and/or good number of other animals is common. This idea got transformed after my visit to forests near Tirupati and interactions with field officers and stakeholders during 1997 which was meant to explore feasibility of promoting tourism based on trekking in forests by tourism department. I was working then as Joint Secretary (Tourism and culture) to Government of Andhra Pradesh (AP). Tourism minister, AP advised me to bring out a plan/project proposal on trekking tourism in forests around Tirupati in response to the discussions held with the officials of state tourism department and corporation. I could learnt that, the forests here with its rich and diverse flora, varied fauna, unique topographic features (hillocks, valleys, plateaus and escarpments), cascading waterfalls offer a great potential to promote eco-tourism. I remember a comment from one journalist and organiser of treks, Sri Ramana (now he is working for SVBC channel) that for earning revenues from forest one has to cut trees and/

or harvest the produce.

But ecotourism provides incomes without involving such cutting/ destruction/harvesting but just by marketing the beauty and serenity of the forest. A forest field functionary remarked that ecotourism is necessary to sensitise about importance of conservation and to invoke passion among the people to save the forests. My raw ideas got strength from these discussions and I started looking for opportunities to contribute to ecotourism as means to protect forests. After a decade of that incident, I could get an opportunity to associate myself directly in promoting ecotourism in a small way after my joining as Chief Conservator of Forest, Tirupati WLM circle in 2007. This article is intended to share some simple operational aspects on ecotourism learnt from our team's experience at Tirupati circle.

Ecotourism in Andhra Pradesh:

Before 2000, there were no specific efforts to promote ecotourism in the combined state of Andhra Pradesh. The places having people's visitation were mainly Zoological Parks and deer parks managed by



Vanavihari–Ecotourism Camp, Maredumilli (AP Tourism)



LOG HUT (Talakona Waterfalls) – R. Muthusamy

the Department. Some Environment Education Centres developed near sanctuaries /national parks used to attract a very few visitors. Some enterprising forest field officers developed a few eco parks at different places and allowed entry of visitors on payment of gate fee. After 1980s the forest and wildlife based ecotourism started gaining momentum around protected areas of forest, wetlands etc., in other parts of the country.

The success story of community-based tourism at Tekkadi wildlife sanctuary in Kerala where former hunters turned into protectors of forests became an inspiration to start such initiatives in other parts of the country. With advent of World Bank assisted AP CFM (Andhra Pradesh Community Forest Management) project, the AP Forest Department started Community Based Eco-Tourism (CBET) activities from 2004-05 onwards. Maredumilli, Talakona, Kuntala, Mamandur, Kambalakonda, Pochera were the important places in combined state of Andhra Pradesh to witness the beginning of community based ecotourism activities during that period.

Ecotourism initiatives in Tirupati circle- our team's experience:

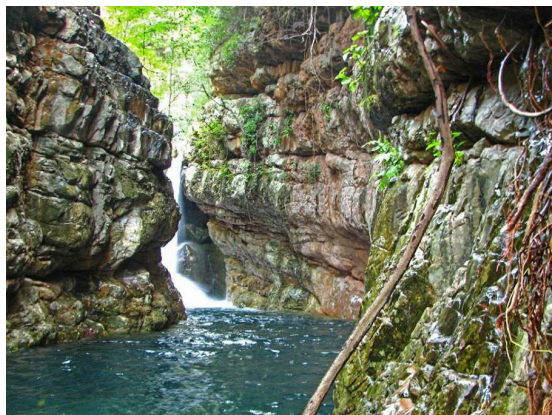
Our team gave good push to promote ecotourism in order to complement the efforts of forest protection and wildlife conservation in the circle. It was a memorable experience to associate in launching of 7 new ecotourism centres, strengthening of 4 visiting places which were already in existence and in total managing

11 centres. These initiatives helped in stimulating effective people's participation, materialising benefits' flow to communities, increasing interface with public, facilitating environment education and finally leading to perceptible image improvement of forest service and department in the circle. The ecotourism was promoted under the label of 'Vanavihari' in Tirupati circle. It is heartening to note that my successors and their teams contributed sincerely to promote and take to next level of development of eco-tourism.

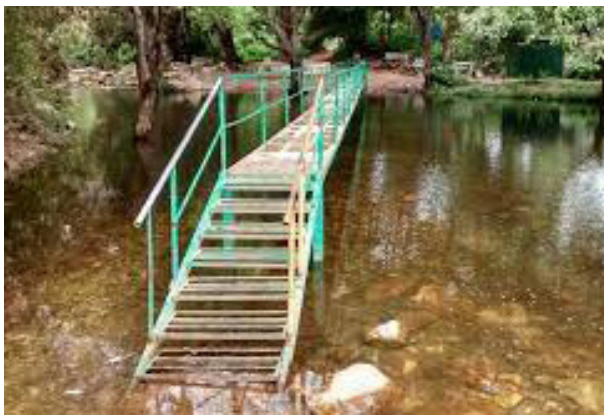
Launching of new ecotourism centres:

On the first day of my joining at Tirupati in November, 2007, during introductory meeting held with DFOs and other field officers I was enquiring about some new sites having the potential to start community based ecotourism activities. The instant suggestion came was Ubbalamadugu area of Cumbaccam forest in Satyaveedu range, Chittoor East forest division.

It was informed that it had some natural attractions of water fall, water pools, rich biodiversity in the midst of dry ever green forest patch supplemented with some moist deciduous tree species. This forest patch is a part of Cumbacum-Droog, a hill range connecting to Nagari hills. Colonel Monteith of the Madras Engineers described about the elevation, beauty of this forest and its prospect to make it as summer or weekend resort in Madras journal, 1836. British officers had a Forest Bungalow on the hillock which was existed until 7 decades back. This forest patch used to be a



Waterfalls, Ubbalamadugu.



Special attraction at Ubbalamadugu, Chittoor East

popular cinema shooting place for both Telugu and Tamil movies about 50 to 70 years back. A few popular Telugu movies shot in this place were Pathala bhairavi (1949/50) & Bhukailas (1957) of NTR and Chenchu Lakshmi (1957) & Ilavelupu (1955) of ANR. Some scenes of Tamil movies of MG Ramachandran (Deiva Thai -1963, Gulebakavali-1955) and Sivaji Ganeshan's Chaitra Pournami were filmed in this forest patch. Sri GV Subbareddy, the then DFO, Chittoor East took over the responsibility of developing the site for community based ecotourism though there is no any specific budget allotment for such work. The DFO with the help of Mr Venkatesulu (FRO, Satyaveedu) and range staff by associating the local VSS members lead by Mr Vemulaiah developed some minimum facilities like entry/check gate, small bridge to cross the pool, tree top platforms (Rachabandas), trail path, nature interpretation boards and visitor amenities such as rest rooms, dress changing room, parking space, cafeteria (vana ruchi) etc., Finally on 1st March, 2008 the centre was opened to the visitors. It became a popular visiting place and in no time it attained the stage of managing it on self-sustainability. The successive DFOs of Chittoor East and field staff did good work and took it forward to next level of development. Another new ecotourism centre developed at Thummalabaiyalu jungle trail in Kadapa district by the then DFO, Rajampet (Mr Srinivasa Reddy) became very popular for nature education tours, safari and jungle camping.

Our team also gained rich experience in developing

and launching four community based eco-parks namely Jungle book (Tirupati), Jungle world (Tirupati), Redwood Park (Koduru) and Kailasavanam (Kailasa Kona) which are found to run successfully on sustainable basis and contributing to conservation education in that area. The community based ecotourism initiated with environment management and educational activities was initiated at Papanasanam got further strengthened and improved by the successors and their teams.

Strengthening of ecotourism centres:

My predecessors and their teams launched two community based eco-tourism (CBET) centres at Talakona and Mamandur prior to one 2 years before joining. A lot of sincere and hard work went in to organising communities, developing infrastructure and placing appropriate management systems before opening to the visitors. These centres became popular ecotourism spots in the state. The responsibility our team was put into effective utilisation of the centres. The then DFOs of Tirupati WLM division (Sri Krishnaiah and subsequently Sri Ramalingam) and their teams put their best efforts in activating the CBET committees, improving and adding the facilities and introducing appropriate activities such as nature trials, guided trekking, jungle safari, boating and night camping. These 2 centres became very popular in the state of Andhra Pradesh and reached the state of self-sustainability by 2010. Two sanctuary facility centres at Nelapattu (Nelapattu) and Atakani tippa (Pulicat) were strengthened with refurbishment of existing



infrastructure, creation of some new facilities and increased peoples participation by the DFO, Sullurpet and their teams.

FOREST ECOTOURISM-OPERATIONAL STRATEGY

Forest ecotourism – concepts:

Though there are several definitions on ecotourism, the one given by International Ecotourism Society, 1993 fits well to the forest ecotourism as per the understanding gained from our experience. This reads as 'Ecotourism is responsible travel to natural areas which conserves the environment and improves the welfare of the local people'. This definition is self-explanatory, and it broadly outlines four characteristics of eco-tourism. First, the essential element of ecotourism is responsible travel/tourism which indicates the need for responsible behavior of the visitor as well as proper conduct and operation of travel/tourism. Visitors should respect the local cultures, the nature, and its resources. Second, the visit to natural areas is the most important ingredient. Thus, without the activities of visiting of forest in the form of visiting/trekking/boating/, safari/camping to watch/study/feel/experience of the nature and its elements (flora, animals, birds etc.) and processes it cannot be called as ecotourism. Third and most essential component of ecotourism is conserving nature which captures various aspects such as conservation education, inculcation of love towards nature, environment friendly practices and generation of resources for conservation. Last but not the least feature of the forest ecotourism is that it should be for the welfare and prosperity of local communities and forest dwellers.

Forests of wildlife importance, birding areas, forests near temples and forests with some important and unique features should be chosen for developing eco-tourism sites. The potential areas for developing eco-tourism sites can be migratory bird visiting areas, urban forest landscapes, sacred grooves, forest with archeological/ pre-historic importance, forests with paleontological importance., forest with unique geological and rock formations, forest with waterfalls, lakes, rivers et., Community based approach in ecotourism promotion is more appropriate as it causes

low impact on forest ecosystem besides maintaining mutually complementary relationship between forest conservation and prosperity of communities.

Promotion of eco-tourism does not always involve finances and sometimes non-monetary inputs can also show significant results. Creative ideas are more important than simply spending the amounts for developing an ecotourism center. Showcasing the natural features of the forest such as multi layered flora (herbs, shrubs, trees, climbers), diverse fauna (birds, animals, insects etc.) and associated unique natural features of beauty such as escarpments, waterfalls, water springs etc., in true form and without adding too many artificial structures will provide an unique experience to the visitors. It would be appropriate to undertake interventions to facilitate such experience rather than creating new attractions of artificial nature.

Ecotourism - interventions:

Most of the works/actions carried out for afforestation and forest conservation by the forest departments are well defined and standardized. Such kind of standardization, uniformity and rigidity of working may not be appropriate for promoting and managing ecotourism centers. Site specific interventions with flexible approach can give better results. The following broad guidelines are found to be useful in developing and managing the ecotourism centers.

1) Title of center:

Naming of the ecotourism centers with some self-explanatory and catchy title helps to provide an identity and publicity to the activity. The nomenclature of Jungle Book, Jungle Pools, Jungle Homes, and Jungle world etc., adopted in Tirupati circle could provide identity and facilitate wide publicity to the centers.

2) Ecotourism area – Sectors formation:

It will be useful to demarcate the forest area for permitting activities and facilitating ecotourism. Such demarcated area needs to be divided into different sectors representing the themes based on the existing features of the forest and nature. For instance, the patch where more number of birds can be sighted can be named as pakshula prapancham (worlds of birds/birds'

paradise). Similarly other names like chetak dhamam (insects, butterflies), sila vinyasam (rocks and rock formations), veduru theeram (bamboos), prakruti bata (nature trail), khaniya samrajyam (minerals), vihangavashanam etc., facilitated better management and effective utilization of ecotourism sites.

3) Nature interpretation:

Community guides/naturalists have to play important role in showing and exposing the forests and its various features for effective nature interpretation and conservation education. Interactive sign boards providing guidance, information on the forest and naturalism should become an important part of an ecotourism area. Information, education and communication (IEC) materials on each of the centers with details of the places and activities will raise interest to the visitors.

4) Eco-friendly infra structure and facilities:

Visitor amenities such as camping facility (cottages, dormitories, tent houses), cafeteria/food court and other common facilities should be cost effective and eco-friendly type. Their designs should merge with the nature and be based on indigenous/vernacular architectural designs.

The infrastructure and facilities required for activities such as Trail paths, Safari routes, nature observation towers, canopy walks, board walks, tree platforms etc., should be of eco-friendly nature.

5) Ecotourism activities:

Each of the eco-tourism should have a basket of different activities such as trekking, nature walks, rock climbing, jungle safari, bird watching, wildlife viewing, Botanicalisation, wildlife photography, boating, rafting etc., to give optimal experience of nature to the visitors.

6) Integration with local livelihoods:

It is necessary to integrate the management centers with effective livelihood promotion through facilitating employment creation (guides, facilitators, and

housekeepers), marketing of value-added forest products and handicrafts of the communities etc.,

7) Exposure to local culture and traditions:

Exposing the visitors to local culture and traditions will enrich the experience of the visitors besides inculcating the respect to other cultures and traditions of the forest dependent communities. It will be useful to encourage home stay in forest fringe villages which will provide a great opportunity to get exposure to local culture, lifestyle etc., Further, ethnic, and local food items should find place in the food courts, cafeteria etc.,

8) Ecotourism- environment friendly practices:

These practices need priority on account of two reasons. First, they cause low impact on nature. Second, they will have demonstration value for successful replication. Following are the important practices in this regard:

- Resource Management –water conservation, recycling of water, energy conservation & use of alternative energy sources.
- Pollution control – ban on polythene materials, restrictions on entry and movement vehicles
- Waste Management – garbage removal, composting, vermi-compost making etc.,
- Fixing and adherence to carrying capacity norms on foot fall

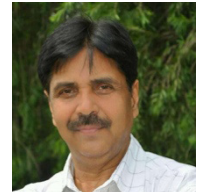
9) Community empowerment:

The capacities of the communities and people involved in managing the ecotourism centers should be built and enhanced adequately with appropriate skill upgradation and attitudinal improvement programmes. Forest Department should play effective role in guiding, facilitating, promoting, and regulating the ecotourism programmes. It is very important to give a feeling that the local people participating in the ecotourism center are equal partners and not mere workers. Communities should be empowered to play active role in managing the affairs of ecotourism within the framework of the norms fixed by the forest departments.

(The author is former Principal Chief Conservator of Forests (Head of Forest Force) Andhra Pradesh and can be reached over mobile: +919989171958 and by email: pmkrao72@gmail.com)

Thirty Two Tiger Reserves Have Shown Decline In Forest Cover In India

Dr Uma Shanker Singh, IFS (Retd.), DSC.,



This is one of the extremely important issue in order to find out the maximum numbers of tigers any protected area can sustain but primarily availability of food and space is the primary factor that determines how many tigers a forest can hold. And often, food is space for the tiger. There is another dimension to add into this criterion is the quality of tiger habitat also regulates the optimum number of tigers. In Shivalik hill habitat, for example, Jim Corbett may sustain 10-16 tigers in 100 square kilometres. This slides to 7-11 tigers per 100 sq. km in the reserves of north-central Western Ghats such as Bandipur, and to 6-10 tigers per 100 sq. km in the dry deciduous forests, such as Kanha, of central India. There is a study done by WII which claims that the density of tigers in the Sundarbans may have reached the carrying capacity of the mangrove forests, leading to frequent dispersals and a surge in human-wildlife conflict.

The WII study reveals a density of 3-5 tigers in the Sundarbans. Given that 88 (86-90) tigers were estimated in 2,313 sq. km of the Sundarbans in 2018, the population has been close to its so-called saturation point in the mangrove delta for some time. The correlation between prey availability and tiger density is fairly established and there have been many studies done on this subject. There is even a simple linear regression explaining the relationship in the 2018 All-India Tiger report that put the carrying capacity in the Sundarbans "at around 4 tigers" per 100 sq. km. There is yet another study by a joint Indo-Bangla team way back in 2015 which pegged the tiger density at 2.85 per 100 sq. km after surveying eight blocks spanning 2,913 sq. km across the international borders in the Sundarbans. There are many reasons for the low density of tigers in the Sundarbans because the mangrove forest which used to be healthy once upon a time is disrupted therefore supports low tiger prey densities.

There is another dimension also which decides the population of tigers in any protected areas and conservation agencies can manage populations' more effectively if they know the factors contributing to population losses. Human induced mortality (i.e., hunting, trapping, poisoning, poaching, and retaliation killing) of tigers has been witnessed in Indian protected areas like Panna and Ranthambor national park. In a study this has been established that incidents of retaliatory killing and poaching of tigers in another protected area of India were higher than what were recorded in the Ranthambhore Tiger Reserve.

Poaching in Sariska and Panna Tiger Reserves caused the local extinction of tigers in both areas by killing the entire population of <30 animals (Narain et al. 2005, Gopal et al. 2010). This is one example that highlights the vulnerability of tiger populations due to poaching and other illegal killing even when they reside in protected areas. The losses of tigers due to poaching or poisoning in Ranthambhore Tiger Reserve were always recorded. While physical (space) and biological (forest productivity) factors have an obvious influence on a reserve's carrying capacity of tigers, what also plays a crucial role is how the dispersal of wildlife is tolerated by people from the locals who live around them to policymakers who decide management strategies.

OVERALL DECADAL DECLINE IN FOREST COVER IN INDIA'S 52 TIGER RESERVES

The government of India publishes a biennial report on the status of forest in Indian forests and according to the latest report published in 2021 reveals that there has been an overall decadal decline in forest cover in India's 52 tiger reserves. Tiger reserves in India have lost 22.62 sq. km of forest over the last decade while Gir national park has lost 33.43 sq. km. Out of the 52 tiger reserves, 32 tiger reserves have shown a decline

ing trend, ranging from 0.06 sq km in Orang in Assam to 118.97 sq. km in Kawal in Telangana. Bhadra (53.09 sq km) in Karnataka and Sundarbans in West Bengal (49.95 sq. km) have also witnessed sharp declines in forest cover.

OVER A THIRD OF INDIA'S BIG CATS RESIDE OUTSIDE TIGER RESERVES

We have more than a third of India's wild tiger population resides outside the 52 tiger reserves, the latest All India Tiger Population Estimation Report has revealed. As many as 1,923 tigers or 65% the total tiger population was found inside tiger reserves and the rest were estimated to have a range that was largely found in neighbouring forest blocks, the government's report on 2018 tiger population estimation showed. The reported population densities of tiger in tropical rain forest has been reported to range from 0.21–2.95tiger/100 km², while in tropical dry and moist deciduous forest and grassland habitats the population densities of tiger were reported from 4 to 16 individuals per 100 km² (Carbone et al. 2001; Karanth et al. 2004; Jhala et al.2011).

The results may vary between two different sites and this may be because of differences in vegetation, prey availability, and hunting pressure. The tropical rainforests offer little primary productivity at ground level, and thus, the mammalian biomass is dominated by arboreal herbivores (Eisenberg 1980). A high proportion of the primary productivity in rain forests is in the canopy and is available to relatively small mammals, so food availability for large ungulates in tropical forests is low, hence low density of ungulates is expected. Because tiger abundance is related to prey abundance, a lower tiger population density is likely in tropical rain forests.

TIGER DISPERSAL IS A PROBLEM IN INDIA

Artificially boosting the prey base in a tiger reserve is often an intuitive solution but it can be counter-productive. The wildlife managers have to tackle many external factors, such as bush meat hunting, which is necessary to ease pressure on the tiger, but the government's policies have discouraged reserve managers from striving to increase tiger densities by artificial management practices of habitat manipulation or prey

augmentation. The other options could be to increase the areas occupied by tigers but wildlife corridors may not be the one-stop solution for conflict. First, not all dispersing tigers will chance upon corridors simply because many will find territories of other tigers between them and such openings. Even the lucky few that may take those routes are likely to wander to the forest edges along the way. Worse, the corridors may not lead to viable forests in reserves such as Sundarbans, bounded by the sea and villages.

Recent studies have cast light on factors that impede tiger movement in corridors and the long-term impacts of fragmentation on animal movement and wildlife populations. India already has the highest road density within tiger habitats. By 2050, road development within tiger landscapes in India is projected to increase by 14,000 km, several orders of magnitude higher than other tiger-bearing countries. Other research reveals that while tigers have the propensity to move through agriculture and plantations, roads with high traffic volume and dense settlements are significant barriers to movement. Roads are thought to have depressed numbers of tigers and other wildlife by their ungulate prey by as much as 20 per cent across the specie's range, and adversely affected survival in some areas. Road and linear infrastructure is clearly a pressing development imperative, but it must not be a foregone conclusion that infrastructure development will come at the cost of wildlife habitats.

There is something to be hopeful about too. Growing evidence of the ability of tigers and other wildlife to move through agro-ecosystems suggests that ecological connectivity for some wildlife species can still be maintained in some landscapes where forested corridors are absent or degraded. But corridors in agriculture-forest mosaics will only remain permeable for wildlife movement if they are buffered from poorly-planned land use change, urbanization, mining, industrial development and accelerated road and highway development.

NEED FOR LAND USE PLANNING

Given that there is no national land use policy in India,

Contd.. on page No.15

Green Quiz - September 2022

Quiz Master:

Dr K. Tirupataiah, IFS (Retd.)



1. Where is India's Largest "Virtual Herbarium" located?
2. Each climber attempting this mountain has to mandatorily deposit Euro 15,000 to cover his/her probable rescue and possible funeral charges? Which Mountain in Europe?
3. If slender Loris is to South India, what relative of it is found in North East India?
4. According to one theory, a probable bridge between Madagascar and India is said to be in the Ocean. What name is given to the submerged island?
5. Peninsular Rock Agama (*Psammophilus dorsalis*) is considered as an indicator sps in Urban areas for?
6. Gender in Turtles is not chromosome related. It depends on sand temp. What sand temperature results in emergence of male & female baby turtles?
7. Greeks termed it Hippo. What does it mean?
8. In Pilikala Biological Park, Mangalore, the World's largest Snake is successfully bred. What Snake?
9. Which sps of Monkeys get bald as they age?
10. Otters have a peculiar habit of sleeping that secures them from getting separated from their group. What habit?
11. Where, in India, is the World's largest Zoo coming up?
12. When the male Bumble Bee (*Tummeda*) doesn't like a female Bee, what does it do?
13. How much time does it take for rain drops on Amazon forest to reach the soil?
14. When excess CO2 saps nutrients from Eucalyptus leaves that Koalas eat, what happens?
15. Who wrote, "The fearful symmetry of Royal Bengal Tiger"?

(Answers on Page:18)

(Quiz Master is the Quiz Champion of All-India Forest Spots Meet 2019, Raipur. Retired as PCCF, he now works part-time as Chief Consultant (Trg) at Dr.MCR HRD Institute of Telangana)

Note: contributions are invited from member/readers. Select questions (with answers) would be published in this article along with those from Quiz Master. Questions with answers may be mailed to: kota_86@rediffmail.com

Continuation from page No.14

and that corridors lack legal recognition and their location, extent, boundaries are often shrouded in ambiguity, it is often hard to strategically reconcile conservation and development planning. Yet, some critical actions must be prioritised to strengthen connectivity conservation. However, as several studies have shown, removing tigers or any wildlife cannot eliminate the chances of future interface as another lot invariably turns up.

The remedy, experts say, lies in smarter land use to minimise damage and adequate incentives to promote acceptance of wildlife. Generous compensation policies can take care of the financial cost of losing livestock or crops, or wasted man hours when a workplace is avoided due to a passing tiger. Besides, the percolation of financial benefits of having charismatic wildlife in the neighbourhood can also nudge some towards better tolerance.

(The writer is former PCCF, UP and a prolific writer. He is currently guiding many PhD students in Ranchi university. Feedback: mobile:9450877777 and email: umashankar.87@gmail.com)



Dead Man

Mohammad Ahsan, IFS (Retd.)

Humans are storehouse of motley emotions – love, hate, fear, jealousy, grief, shock and so many. Some emotions are positive and certain others negative. Both play an important and active role in making the world go round. Jealousy is something that is common and sometimes attributed to crab mentality of human beings, although the two species are no way zoologically related to each other. Humans are vertebrates, yet sometimes they behave like an invertebrate fauna like crab. Look at a box full of crabs. Before a crab tries to come out of it, the other one drags it back to the box. The activity goes on without any tangible results. They come in each other's way.

Live humans too come in each other's way excessively frequently. They come between you and your dreams. The moment you think you are nearer to your dreams; some other human being would pull your leg down or make you stumble. The things go on and on. However, there are certain rough weather-beaten people who are able to overcome this nonsense and make room for them.

So, when in the year 1988, the good old affectionate Kamal Naidu sahib, then Director, Delhi Zoological Park informed me that I had been selected by Government Of India to go on a month's tour of East Germany (GDR) under Indo- GDR Cultural Exchange Program, naturally I found myself very thrilled. Until then Nepal was the only foreign country I had visited. Going to an East European country, the GDR, was opening new possibilities before me. I started dreaming lot many things. I dreamed of going to GDR, visiting Berlin and other major German cities, then taking a week off and quickly visiting to Vienna, Prague, Budapest, and other charming cities of eastern and central Europe. With every passing day, the horizon of my dreams was widening. And apparently everything was going well.

That was the time; I was working as Director, Kanpur Zoological Park.

Then all of a sudden, there came between me and my dreams a person whom I had not ever heard of or knew until two months before. But most surprisingly, he was not any live human being. He was a dead man, yes, a dead man, namely Indrajeet Singh s/o Baljeet Singh, r/o Nagla Bhogpur, Tehsil Puranpur, District Pilibhit.

I was caught in a whirl of surprise.

It had all started with a telephone call from a friendly officer sitting in GOI (Government of India), who said, ' Mr. Ahsan we are processing your papers for the travel, but we have yet to get clearance from government of UP. Kindly see to it that this is done at earliest.'

Definitely, they needed clearance from government of UP, my employer at that moment of time.

Naturally, the phone call caused me anxiety. Next day I went to Lucknow and entered the room of Special Secretary (Forests) in the Secretariat. I told him about the matter and requested him to expedite the clearance from Government of UP.

He called the file, looked into it and said, 'but there is an inquiry pending against you.'

'Inquiry against me?' I almost gasped. 'I don't know. What is the matter, Sir?'

He turned over some more pages of file, concentrated on a part of it and said, 'As DFO (Divisional Forest Officer) Pilibhit, about three years back, you had issued a tree- cutting permit to a dead man.'

Oh, so my fears had come true. I knew there was a dead man who was following me like a Frankenstein monster for the last two months, but I had no idea he would come between me and my dreams.

The world is a theatre, we all know. We all play our designated roles in life along with other co-actors. I never knew in the theatre of my life; this dead man too was going to play an important role. Probably my karmas had already destined this dead man to be a co-stage actor with me.

Then I felt I was sitting only with my body on that chair opposite to that Special Secretary, and my mind had flown into a halo of last two months' time.

About two months back a very senior forest officer from the Lucknow HQ (headquarters) had visited Kanpur, and on a cup of tea had told me of a rumor that I was stuck up in some messy substance. He had advised me to go to Lucknow and find it out.

I went to Lucknow, then to Lakhimpur, then to Pilibhit forest offices and then came back to Kanpur with a bundle of copied documents regarding that messy substance.

That bundle of documents had in itself a story.

It seemed somebody was very displeased with my successor, after I had left Pilibhit on transfer about two years back. That disgruntled person made a complaint against him with lots of allegations. Among those allegations one was he had issued a tree-cutting permit to a dead man. In the last, a line was added that permit to same dead man was issued about six months before too. The allegations looked serious, and an investigating officer was sent from Lucknow HQ to find out the facts. Some of the allegations against my successors were found true, others only figment of imagination. It was also found that tree-cutting permit was issued to a person who was dead for about a year. Then the investigation officer on the basis of records discovered that six months back too, a permit was issued to same dead man, and the permit issuing person was no other than Mohammad Ahsan.

Investigating officer, in all 'fairness' wrote that permits in the department were not issued on any physical verification of the applicants, but on the basis of documents duly verified by the competent authorities,

submitted along with the applications, and as such issuance of a permit to a dead man is none of his fault, rather a fault of those that had verified the documents. Then the investigation officer with a pinch of malice and self-importance concluded that 'True, Mr Ahsan had no knowledge whether the person was dead or alive, but it was expected of him to know by the end of his tenure.'

Actually, it was not very fashionable in those days with Inquiry Officers to find someone not guilty during inquiry. Finding someone guilty always brought them laurels from government.

On the basis of the report of this investigating officer, government had decided to frame charges against me.

It was really a very funny situation and irritating one. I felt I was standing on firm moral ground. Examination of the documents had revealed the application was made by the dead man through an affidavit duly verified by a notary, his land holdings were certified by the lekhpal, the situation and details of the trees on his land were verified by the lower functionaries of the forest department. As far as myself, I had taken due care before issuing the tree-cutting permit. I had permitted him to cut only those trees that were allowed by the law to be cut. I felt a pang of anger inside me. People, obviously the relatives of the dead man in collusion with government functionaries, had played a fraud. In the entire episode I had no fault, except that till then I had no idea world was run by crooks and racketeers. And worst was I was not even given a small chance to explain my position.

I said to myself, 'let them do whatever they like, I have done no wrong, I will explain my position when they give me the account of charges.'

And with this I had forgotten the episode.

My mind in a swift action had flown back to my body sitting on the chair opposite to Special Secretary (Forests). I remembered my dreams.

I said, 'Sir, but I have no fault in issuing permit to dead man.'

He looked sympathetic and said, 'I feel the investigating officer should have associated you at the time of investigation.'

'It can still be done, and I can explain my position.' I implored. I felt my dreams were slowly getting on slippery grounds.

'Well, yes, although government has already decided to frame charges of negligence against you, yet I will try to see to it that you get a chance to explain your position.'

I thanked him copiously and requested him to quicken the matter.

Then I had another call from Delhi. They said, they had not more than a week's time for me, I must hurry up.

About ten more days passed but the department did not send me any letter to explain my position. Files move at snail's pace in the corridor of bureaucracy.

Delhi people dropped my name from Cultural Exchange Program, and replaced it with Mr. BN Gupta, then Director, Chandigarh Zoological Park. Interestingly Mr. BN Gupta of Punjab Cadre, a hardcore forester, renowned silviculturist, and seed expert was serving his time in that Zoo only by default. His government, a few months back, had put him in the Zoo more out of her annoyance for him in some matter than any pleasure. He had no background for wildlife management.

In the next All India Zoo Directors' Conference, Mr BN Gupta told me the graphic accounts of his visit to the cities of Berlin, Prague, Budapest, and Vienna.

However, I finally got a letter from the department to explain my position in the matter of issuance of a tree-cutting permit to a dead man. I tried to explain at length

the circumstances under which the permit was issued, and that I was no way guilty.

My explanation was examined, scrutinized, commented upon, analyzed, and reexamined endlessly by various functionaries of the department and those sitting in the Government. My explanation was tied with the file of charges, and it moved in the corridors of power from one desk to another, from one table to another, from one pillar of power to another. It seemed there was no end to it.

Finally, after a year and half, I had a letter from government that said my explanation was acceptable and the charges of negligence were being dropped, but in future I must act with more caution.

By the same time the Wall of Berlin was razed to ground, both the Germanys were unified, and the country GDR ceased to exist.

A few years after, I happened to visit some parts of Europe including erstwhile GDR or East Germany but not the cities like Berlin, Vienna, Prague or Budapest that were part of the dream.

The matter of dead man was almost settled, yet his specter never ceased to haunt me. All through my life into the government job, I remained scared of its possible apparition.

Only the other day while shifting my home, when I was weeding unnecessary documents that had occupied lot of room, I could muster necessary courage to destroy the file of dead man, namely Indrajeet Singh s/o Baljeet Singh, r/o Nagla Bhogpur, Tehsil Puranpur, District Pilibhit after about twenty five years.

(The author is former PCCF & HOFF, UP: Editor, Reminiscences of SORFO (Society of Retired Forest Officers, Uttar Pradesh & Uttarakhand) and author of many books. He can be contacted over phone: +91 9415409325 and Email: ahsaanluck@gmail.com)

Answers:

- 1) BSI Kolkata, 2) Mont Blanc, 3) Slow Loris, 4) Lemuria Island, 5) Hot spots, 6) below 27 C- Male, >31 C-Females, 7) River Horse, 8) Reticulated Python, 9) Stump tailed Monkeys, 10) Holding hands together, 11) Lalpur, Jamnagar, Gujrat, 12) Act as dead, 13) min 5 minutes, 14) toxic anti-nutrients (tannins), 15) William Blake

Remembering Shri B S Chengappa & Shri Fredrick Walter Champion, IFS

R. Hemanth Kumar, IFS



Till 1870 there was no commercial exploitation of forest products in Andamans. From 1870, Padauk gained commercial importance and it was exported to Indian market in the form of hand sawn squares and scantling. The local Administration considered it necessary to organize the forest department and Andaman Forest Dept came into existence in 1883.

Irregular and selective felling's were introduced and teak and padauk plantations were taken up. Mainly padauk was extracted with some Gurjan and a few other species.

Forestry activities in Andaman were always exploitation oriented which were selective and irregular till 1906. In 1921 selection felling of marketable species over a girth limit was discontinued and clear-felling system was introduced.

Thus, for a long time, forests in Andaman and Nicobar Islands were managed under Production Forestry. The forest department followed a "conversion" forestry system where natural forests are worked, commercial species extracted, and the worked forests regenerated and managed in a manner such that there is a resultant preponderance of commercial species for future harvesting

Making of Working Plans in Andamans, started with the visit of Shri H C Hill, the then Inspector General of Forests, to Andamans in 1891 and he suggested to carry out Natural regeneration in extraction coupes and instructed to prepare Working Plans.

The first working plan for Andamans was prepared by Todd (for North Andaman Islands) in 1906, Bonington prepared the second working plan (in 1914) –in it he prescribed removing of over matured Andaman Padauk trees and it prescribed planting of Teak and indigenous

species. Clear-felling was started in 1921 for raising plantations of Teak and Padauk, but was abandoned after three years, as the results were not favourable. HS Dean's working plan in 1936, emphasised on tackling regeneration and exploitation simultaneously, for reasons unknown working plan of HS Dean was not accepted and it was decided to shift from Clear Felling System to Selection System and Sri B.S Chengappa, a brilliant State Forest Service Officer, was asked to prepare Working Schemes for different forest areas, he standardised a silviculture system for regenerating the heterogenous tropical forests.

He propounded a regenerating system called Andaman Canopy Lifting Shelterwood System, which is a variation of the Irregular Shelterwood System and this system is still in practice. Thus, a viable solution was devised by Shri B.S. Chengappa when several attempts to regenerate forests of Andaman and Nicobar Islands, through Selection and Clear Fellings were failed.

Contribution of B.S. Chengappa to the production forestry:

In Andamans for transporting logged wood, Steam tramway was introduced in 1903 from Shoal Bay to Port Blair. Construction of road to take out timber was started in 1914 in Bomlungta. The steam vessel, "Rosamund" was purchased in 1905 to initiate water transport followed by another steam vessel "Montagu-Douglas" in 1930.

B.S. Chengappa introduced graded drag-paths, log-shoots, and tramlines along the contour, avoiding costly culverts and bridges, using hollow padauk logs instead. Branches of trees were used as sleepers for dragging the timber using elephants. Chengappa also introduced the method of preparing rafts of floaters and semi-floaters and semi-floater logs and towing them using tug-boats.

In the remembrance of Shri BS Chengappa, longest and biggest bridge (268 m long RC Bridge) in the Andaman and Nicobar Islands (that connects middle and north Andaman Islands) was named after him. Unfortunately, this bridge was damaged during the 26 December 2004 Sumatra earthquake.

Long live the rich traditions of Indian Forestry!

Fondly Remembering Fredrick Walter Champion IFS

Amused to learn that F. W. Champion IFS, way back in 1920's, devised trap cameras for capturing the photos of wildlife, when that was the time people were getting photographed with the wildlife trophies (shot by them), he pioneered in taking the photos of wild.

Sharing the info about his contributions to Indian Forestry:

The two books written by Fredrick Walter Champion titled- "With a Camera in Tiger Land"- published in 1927 and "The Jungle in Sunlight and Shadow"-published in 1934 are really interesting to read.

FW Champion was a versatile person, who started his career as a second Lieutenant and rose to the ranks of Captain, (received Order of British Empire—OBE, for the meritorious services rendered by him) then switched his career to Forest Service, a topper of his batch and became a part of Imperial Forest Service.

His father was a noted Entomologist of his time and his brother Sir Harry George Champion who is well known for classifying Indian Forests into Types.

FW Champion proved that he is not behind his illustrious father and brother. During his first posting

days as Forest officer of Landsdowne Forest Division in the Pauri district of now Uttaranchal, he widely travelled in the terai areas of United Province and pioneered camera trapping method, in the 1920s, he developed cameras triggered by tripwires. Using a flashlight as well, he obtained dozens of remarkable nighttime photographs, which are among the first of wild tigers, leopards, sloth bears, dholes, and other wildlife. He recognized that with good photographs of tigers, it was possible to tell individuals apart by their different stripe patterns.

FW Champion was a passionate conservationist, long before conservation became fashionable and a buzz word, he campaigned hard for protection of tigers and their forest habitats. He strongly believed in the protectionist role of the forest department in India. He championed the idea of limiting gun licenses, stopping motorcars from entering Reserved Forests and reducing rewards for killing wildlife. He was a founding member of India's first national park (Hailey NP) established in 1935, which was rechristened as Corbett National Park in 1957.

He is a perfect example of a man who transformed himself from a trigger-happy soldier of British Army to a shooter who excelled to shoot the nature through lens.

I am posting two of his famous photographs: (**See the center page of this issue**) -the first one taken by him in Bahraich Dist of UP and the second one taken in 1944 at Chittore and now placed at Laxmi Vilas Palace, Bikaner.

The books written by him are worth reading and he is worth remembering.

(The writer is the Deputy Director General Forests, (Central), Chennai. A postgraduate in M Sc (Biosciences), MSc (Forestry) and MBA from Australia with 42 published papers and many awards to his credit. He authored "Model Disaster Management Plan for Zoological Parks of India", a CZA publication adopted by many countries. He can be contacted over email: hravivarapu@yahoo.com)

CORRIGENDUM

The photo published in the middle of bottom row on page 30 in VanaPremi, August issue (covering 96th General Body meeting of the Association of Retired Forest Officers of Telangana and AP held on 26.06.2022), it is erroneously mentioned as 'Felicitations to Sri C. Sudhakar Rao'. Please read it as "Felicitations to Sri P. Ravinder Reddy". The error is regretted. - **Editor**

The Green Meadow and The Golden Beach

S.K. Das, IFS (Retd.)



*I am no longer a free bird like others,
Day after day passes by
In the company of office-files within the four
walls of the room,
In the endless discussion
With known and unknown faces.
Who knows when the day of my liberation
will come?*

*Green fields and the flowery trees call me
too often
As I snatch some time from work I go down
the memory lane
Deep sighs envelop me.
There was a time when I also went to green
meadows
Field past the trees big and small
And played with time
I did not have to account for the same to
anyone.*

*There was a time
When I've also observed the birds heading
for their nests*

*Flapping their wings through spring-wind
As I lay in uninterrupted leisure
On the green meadows under them
Gulmohar tree
There was another me
Who basked on the golden sand day long
And waded through the salty sea
In tireless zeal.
Decades have gone by
I remain Caged within four walls.
Those birds, the green fields and sea beach
of molten gold
Keep on calling me ceaselessly.*

*There will be another day I'm sure
Bringing uninterrupted leisure.
I would wrap the golden shawl of soft
sunrays around me.
On a winter morning
Tread on the dew-soaking grass
Follow the golden wings of the kite in the
morning sky.
Would you still be there beside me
On that special morning?*

(The poet is former Prl. CCF and HoFE, Andhra Pradesh and the poem is taken from his collection of poems 'Kabitake Bhalobeshe', translated by Ms Chandana Khan, IAS (Retd.). Feedback -Mobile: +919550681964).

*"What we're finding is it's not necessarily the reality that shapes us,
but the lens through which your brain views the world that shapes your
reality. And if we can change the lens, not only can we change your
happiness, we can change every single educational and business outcome
at the same time."*

- Shawn Achor



Operation-Green Cotton

B.M.T. Rajeev, IFS (Retd)

Prelude: The problem of forest encroachment in Bandipur Tiger Reserve (BTR) Karnataka was unheard. But, there was an encroachment of forests in Alaganchi RF close to the fore shore of the Nugu Dam. It was not taken note and reported by the staff/RFOs concerned to authorities. It was spreading like a sore in Saragur Hobli, Heggada Devana Kote taluk. *There were good rains in 1996 and the crops were sown in the encroached area over 100 acres.*

The local farmers of Saragur town were lured by the fertile land and the cotton crop that the encroachers in the Alaganchi RF were enjoying and planned to go for mass encroachment in the RF enmas. *The land hungry people joined together and planned to divide the forest land in to 2 acres plots to each intended encroacher and started cutting, burning and uprooting the forest land for cultivation enmas adjacent to the encroachments done earlier. The concerned staff had not bothered to stop, book them or report the encroachment to the higher authorities to reign in. The staff was afraid of the farmers as the people were against BTR's staff due to an incident of firing and death of a sandalwood smuggler at Katwal RF adjoining said RF in the previous year-1995. The scene of encroachment was not visible to the road side- since it was towards the dam side and in the foothills of the Alaganchi hills.*

The movement of encroachment in Alaganchi RF came to the notice of the tribals-Kurubas of N.Begur colony-who were evicted from Banur & Gundre gadde (Swamps) of Begur RF in the BTR in 1978 by giving them site, houses and compensation but no land for cultivation. *The tribal joined together and planned and decided to encroach on the forests at N. Begur RF in front of the RFO's office with protests and questions... When the farmers can encroach the forests in Alaganchi RF, why not the tribal at Begur RF? The RFO-KMB*

Prasad tried his best to stop and drive them out of the RF but could not..... and reported the problem to the DCF-myself about the cause and effects of the incident when I was in Aranya Bhavan, Bangalore in a meeting. I returned and halted at Mysore as it was a serious issue to be tackled.

I called on the SP, Mysore-AM Prasad at his residence in early the morning and apprised him about the serious situation of rebellion by the tribals and sought his help to shelve it. He agreed to visit the spot the next day with a platoon of DAR.

Next day, I went in advance to the spot and found the tribal group entering BTR and cutting the forest in Begur RF for encroachment. I, with the staff, went in front of them and spoke to the known men and pleaded to stop it and have a dialogue. They refused point blank with projecting the encroachments in the Alaganchi RF by farmers and questioned.... Why should we not encroach forest? And continued to cut the forests in line.....We formed a human chain of staff and went in front of them commanding to stop cutting or cut us and proceed.... Then they came down and agreed for a dialogue. By the time the SP Mysore with the force of platoon arrived to the spot. Then, we went round the affected area and to the tribal community hall..... had the dialogue in which they demanded that, they were evicted from the Banurgadde and Gundre haadi (settlement) of BTR in 1978 but not given any alternative lands for tilling except house in N.Begur and demanded alternative lands for cultivation....when the farmers of Saragur can encroach upon forests why not they was their demand?. The SP & I convinced them... the Begur is in BTR and that we are not the authority for grant of lands in it. No officer or Govt can grant lands in TRs and we have to protect it. The DC, Mysore is only competent to grant lands to you somewhere and not in

BTR; we will request the DC to arrange for a meeting of you and we will also attend to sort out your problems. They agreed to the suggestions and stopped their agitation for encroachment in the limits of BTR.

The SP & I met the DC, Mysore on a fixed day and got a date fixed for a meeting to resolve the tribal agitation. *The tribal attended the meeting and demanded for the land for tilling in lieu of lands lost in their eviction from Banurgadde haadi and questioned when the farmers can encroach in the Alaganchi RF why not in the Begur RF? The DC-Ajay Seth, promised them that he will try to bailout their problem with some available revenue lands in HD Kote taluk and cannot grant any permission for lands in the NP-BTR and said the govt will take action to remove the encroachments in the Alaganchi RF and none will be allowed to enter the NP. With that, the tribal agitation was stopped in June, 1996.*

Then, I and the SP decided to see that the encroachment in the Alaganchi RF is evicted. The SP wanted some time to get secret information from his officers and asked me to be ready for the eviction legally and he will give full protection..... In the meanwhile, the cotton shown by the earlier encroachers had started coming up. The Moleyur RFO-N Srinivas and N.Begur RFO-KMB Prasad started pleading with me to destroy the cotton, if not, the farmers will reap the benefits of crops and use that money to influence for preventing us from evicting them and the disease will start spreading without cure..... The encroachers got the clue and brought political pressure to the FD-BTR to allow them to harvest the cotton sown and to vacate the encroachment. For our pleading to the FD to not to stop us from destroying the cotton at seedling stage..... He asked us to wait for his visit for spot inspection to decide on it. A month was lost and he was promoted and transferred as CCF. Being encouraged by our restraint from acting against encroachment..., fresh encroachments became rampant. We decided to evict the encroachments and planned it as 'Operation Green Cotton' since cotton came up well by Sept, 1996.

The Operation Green Cotton:

In consultation with the SP, Mysore-who had his

intelligent report by then-told me that the situation is grave, since farmers are seen getting the forest land distributed among themselves as a surveyed plots of 2 to 3 acres. A detailed report about the problem of the encroachment in the NP-BTR with the prevailing situation at Alaganchi RF and a plan made to evict the encroachments as decided in the meeting held by the DC in July, 1996 to pacify the tribal agitation was sent to the DC through a DO letter in person through the ACF, Hediya who entered on leave from the next date and did not return till I was transferred.

In Sept, 1996 on the appointed day, we-I, ACF Bandipur-D Yatish Kumar, and team of RFOs reached the spot very early in the morning with a bus, a truck load of staff/labourers with 4 jeeps; the Police with two platoons headed by two DySPs too arrived..... Force was ready for action.. the D.line was completely encroached/cotton sown was grown well but, luckily some RF bonds of Alaganchi RF in the encroached portion were visible and not destroyed. The police said... 'Sir the legal aspect is yours and the protection is ours. Whatever action you want to initiate to take possession of your property; you are at free to take.... and we assure you the protection'. With the map on hand, I went on showing the D.line..... and the force went on cutting the cotton, and castor crops etc to evict the area. The encroachers who were indulging in uprooting of tree stumps including sandal wood trees' stumps were caught and booked simultaneously and sent to the police station. By evening, about 100 acres of cultivated cotton area was fully cut and destroyed and possession taken over to the BTR; and we left the area before the Sun set safely as cautioned by the police in their presence in the spot. After reaching the Hqrs, I rang up to the PCCF-HoFF-BK Jagadish Chandra and apprised him of the situation since the Assembly session was in progress and got assurance of no problem.

Epilogue: Next day, early morning by 6 am I was in Mysore to attend my maternal uncle's cremation in Magadi taluk – and found that the news papers were adored with pictures of the cotton cut and destroyed in

the encroached area with weeping farmers; agitations held in HD Kote in front of the taluk Magistrates office with demand for the action against the DCF and other forest officers of the BTR. Within Sept, 1996, I was transferred out, but, not for this reason but to accommodate the incumbent.

(After six month, I happened to co-travel with the DC Mysore-Ajay Seth in train-Shatabdi to Mysore ... he told me that after the eviction of encroachments in Alaganchi RF by destroying the cotton crop in the BTR, a lot of political pressure came from the government to initiate action against the DCF but, 'The DC defended it by writing back- whatever done in BTR has been done with the knowledge of the district administration and no action requires to be initiated against any officers of the BTR'). When I rang up BTR office for some information about it in 2002...I felt sick to learn that the BTR could not able to dig CPT along the D.line and plant the retrieved encroachment area due to political influence....it should have been done with FIRs/charge sheets against the encroachers.... Even now, it should

be done since WLPA provisions for the TR as a NP are very strong with minimum SI of 3 years with fine for encroachments.

NB: No operation of eviction of encroachments or replanting can save the forests unless the Forest Department proceeds with right actions to ensure that the forests are retrieved successfully to the fold of the FD. Before raid or eviction...the officers should conduct the survey that how much encroachments have been done by whom, extent and the damage done to the forest with cost and the records concerned to the rights of the forest land to the FD etcand conduct raid to evict the encroachmentdraw spot mahazars and book FOCs and file FIR against the encroachers.... then initiate investigation to file charge sheets by arresting the encroachers....when the procedure of criminal cases process starts in to motion, no political interferences can stop the proceedings and the forests will remain with the FD, if not the fate of Alaganchi RF will befall on all evicted encroachments of forests.

(Writer is a Retd Deputy Wildlife Warden, Bandipur TR, Karnataka, Free Lance Writer and an Author on wildlife, forestry and environment. Mob: 9632781811)

You Can Reduce Carbon Footprint of VanaPremi

I convey my best wishes to all the subscribers of VanaPremi, who are enjoying the content month after month from the magazine's inception two decades back. I am indebted to the readers who give unconditional support with their suggestions and support in all forms. The magazine is also released every month on the website for global access.

There is a felt need to reduce the carbon footprint in every possible way in our day-to-day life. As you know, printing has its share in contributing to the increase of greenhouse gases. Hence, it is decided to send a digital copy of VanaPremi every month to the subscribers who opt out of the physical magazine (hard copy). Please mail your consent to the editor (thayyab@gmail.com) so that the printed copy is dispensed with, and the digital copy will be sent through email every month.

**Editor,
VanaPremi.**

Encounter With The King Of The Jungle

K. Praveen Rao, IFS (Retd.)



Tigers are on the apex of the food chain of forest eco system. Project tiger was introduced in the year 1973 for protecting the tiger, so that all other associates of tiger are protected. Many steps were introduced for monitoring the success of managing the forests from wildlife angle. One of them is tiger census. The tiger census on the basis of pugmarks was first done in the year 1950 and later it was improvised by many foresters. Pugmark census is that method in which the footprints of tiger are measured and basing on the measurements the numbers of the tiger were estimated. But that too had many discrepancies in it, which came to light after the debacle of Sariska tiger reserve, where tigers were being reported even after no tiger existed. This opened the eyes of the department.

A new system of census was introduced in the year 2006. In which the numbers of tigers are not to be reported, but the signs of tiger i.e., scratch markings on the trees, pug marks, Kills, fecal points, direct sighting etc., are to be reported by pinpointing with GPS locations. The data was to be analyzed by Wildlife institute of India, a premier institute located in Dehradun, which is the top advisory institute to Government of India on wildlife matters, to arrive at an estimation of tiger population of that area. The census also had the provision for estimating Habitat status, herbivore and Co-predator population.

When the new system of census was introduced, I was posted as Divisional Forest officer, Bijnor Social Forestry Division. Bijnor is the bordering district with Uttarakhand. After the separation of the state of Uttar Pradesh in reorganization of state into Uttar Pradesh and Uttarakhand in the year 2000, that part of Corbett Tiger reserve which was part of Bijnore district has come to the state of Uttar Pradesh. This forest range is called Amargarh Forest Range. This has beautiful Sal forests

with some mixed teak plantations and crisscrossing rivulets. The area is an excellent tiger habitat.

When the new system of census was introduced, we were all trained by the master trainers from WII Dehradun. The Forest department of Uttar Pradesh too was keen in implementing it with full sincerity. There were clear instructions to all the Divisional Forest Officers to personally supervise the operations and involve themselves in the census operations. We all took it very seriously and trained all our staff regarding the different methods used for counting deer population and checking the habitat status of the forest and the method of estimating the carnivore and co-predator population. The staff of entire division were divided in to Several groups and each group was entrusted with the task of a method of counting.

It was 9th Feb, 2006. We woke up early and checked whether all the members of the groups have reported for duty. Then they were dispatched to their designated locations. I was involving with a different group and for different activity each day. One day with the group which is estimating the density of the forest and ground cover. Another day with the group which is estimating the herbivores like Cheetal, sambar, wildboar etc. The herbivore estimation was by stratified random sampling of the area on the decided transects. The group members are placed at certain distance and all the members will walk at the same time along the transect parallel. Then they note whatever herbivore they are finding along the tract. Then the population was to be extrapolated for the entire forest area. The tiger and co-predator estimation was little different, because it is an elusive and their numbers are quite small compared to herbivores, their counting involved, the specific locations where the tiger movement is possible and pugmarks are identifiable. Such areas

are water ways, kutch forest roads etc., and also the areas where the kill is reported nearby or scratch marks on the trees if any. All these were to be pinpointed with GPS. So that their exact location can be ascertained.

I am a photography enthusiast and wanted to video record the entire operation so that it will be useful for future trainings. We all woke up very early and got ready for the day. That day I was joining the tiger and co-predator group. The designated place was "Lal Jheel". Our team consisted of Mr. Bahadur Singh forester, Mr. Sripal, Forest Guard, Mr. Kedar Singh, Orderly, Mr. Sunil, Driver and myself. I was holding a video camera, Mr Bahadur Singh had a .315 rifle officially allotted to them for protection, Mr. Sripal was assigned the duty of noting down the signs and had a GPS instrument with him.

Lal Jheel is a nallah with dry riverbed, which is active only during rainy season and rest of the year it is dry. The water cut the floor of the nallah and over the years it became like a gorge with high wall on either side. The bed of the river is having red soils and hence the name Lal Jheel. The meandering nallah took many twists and turns inside the jungle. The banks of the nallah have very thick forest of Sal and its associates. Our team entered the dry riverbed and started scanning for the signs of tiger and other co-predators. It was around 7.00 am in the morning. We spotted some pugmarks. Which were fresh and appeared to be of an adult tiger. All our group members were so happy that we are about to report at least one tiger in the area. I immediately took out my video camera, which was hanging on my shoulder for some time without any work. Started recording the close shots of the pugmarks. We the group members were discussing as to when that must have visited that spot and in which direction it moved. We tracked the pugmarks for certain distance and after which the pugmarks climbed the side banks and became invisible. Finally, we reached to some conclusion that the tiger must have come into the dry riverbed and returned in to the jungle by climbing up the side steep banks.

I was recording the pugmarks throughout. The nallah/riverbed is meandering and was taking many twists and turns. My self, Mr Sripal and Mr Bahdur Singh were

still discussing, and I was watching the recording as to how the further clips can be improved so that, we can come up with a better video output. My orderly Mr Kedar Singh started moving further, which I couldn't notice, as we three were discussing about the tiger and about the visibility of it in Terai habitat. Generally, it is regarded that the terai tiger is more elusive compared to the tigers of other drier habitats.

Mr. Kedar Singh was ahead of us by about 30 mts. His eyes were searching for the traces of predators. The riverbed was taking a turn there. He stopped near the turning of the nallah and asked us whether we heard any growling sound. As we three were in discussion, we have not concentrated on other sounds. We shook our heads indicating 'No'. We stopped our discussion and started in the direction of Mr. Kedar Singh, with vigilant eyes searching for more signs of Predators. Mr Kedar moved further and was reaching near the turning. The growling sound of the tiger is very clear now. It was not visible to us because, the tiger was sitting on other side of the turning. But, it is hardly any far from us and probably Mr. Kedar was almost near the tiger. It started roaring and it sounded 'grrrow, grrrow, grrrow and grrroooooff'. The loudness of the increased with every roar. We all have become like statues. Mind was blank and not allowing us to think any further. I tried to recover from the shock and gave myself the confidence that 'you are the leader today and you have to give some direction to the staff'. I asked Mr. Bahadur Singh to keep his .315 rifle ready, so that in any eventuality we can protect our lives. He tried cocking the bolt to load the bullet, but to our dismay, it got stuck and the bullet couldn't be loaded. It was another shock to all of us. Mind was thinking negatively. I recovered and told the team members to be united and not move in different directions. Asked all of them to move in one direction, so that we appear like a small group, probably thinking that the tiger would avoid larger gathering. We all literally crawled the high banks of the nallah and reached up and hide ourselves behind a big tree trunk. All the above sequence happened in about a minute's time. Every action of ours was very swift. Probably this

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Successful Breeding of Ring-tailed Lemur in Indira Gandhi Zoological Park, Visakhapatnam

Dr G. Ramalingam, IFS.,



Introduction:

Lemurs were isolated at least 50 million years ago and have gradually diversified into the modern array of over 40 species (including several extinct large bodied species). As such, Lemurs have retained numerous primitive characteristics while at the same time developing many features in parallel to the monkeys and apes of the major southern land masses, in particular increased diurnal activity.

This is the only surviving semi-terrestrial diurnal Lemur, endemic to Madagascar. They are a good environmental health indicator of the area in which they live and contribute a great deal to the longevity of the forest area, through seed germination and dispersal.



These are the most terrestrial of all Lemurs, but they spend time in all layers of the forest.

Ring-tailed Lemurs in the wild measure about 42.5 cm from head to rump and weigh between 2.3 to 3.4 kg on average. Males and females are about the same size. There is no pelage difference with males and females. The males have heavier heads and shoulders in comparison to the females.

The conspicuous characteristic for which Ring-tailed Lemurs are known is their long tail, with alternating bands of black and white rings. The rest of their bodies are light reddish gray to dark red-brown with light gray to dark brown rumps and light gray to gray-brown limbs. They have white undersides, hands, and feet. They have white faces with dark brown or black triangular eye patches that look like a mask around their light brown eyes and they have black muzzles. These are highly social animals living in groups up to 30 individuals. As one of the most vocal primates, the ring tailed lemurs uses numerous vocalization.

They move by walking or running quadrupedally, holding their tails almost completely vertically as they move, with the tip of the long tail curving away from the body forming the shape of a question mark.

Distribution

Ring-tailed Lemurs can only be found in the wild on the island of Madagascar. They are restricted to the south and south-western portion of the island, reaching a northern limit near the town of Morondava on the west coast and the town of Ambalavao in the east.

Habitat/Range:

Ring-tailed Lemurs live in a variety of habitat types

including rainforests, subalpine, deciduous, and spiny bush forests. They live in arid, open areas and forests. Ring-tailed lemurs live in territories that range from 15 to 57 acres (0.06 to 0.2 km²) in size.

Conservation status:

In addition to being listed as Endangered in the IUCN Red List (IUCN 2014), the Ring-tailed Lemur has been listed since 1977 by CITES under Appendix I (CITES 2008), which makes trade of wild-caught specimens illegal. Although there are more endangered species of lemur, the Ring-tailed Lemur is considered a flagship species due to its recognizability is between 10,000 – 100,000 individuals.

Enclosure details:

Three pairs of Ring-tailed Lemurs (3:3) were brought from Jerusalem Biblical Zoo, Israel in the month of November 2013 they are kept in a very large enclosure having an area of 1358.32sq m. The enclosure is enriched with grassy landscaping, planted with some indigenous tree species like *Ficus bengalensis*, *Tamarindus indica*, *Syzygium cumini*, *Azadirachta indica* etc. The outdoor enclosure has a large shelter (Machan) constructed with wooden poles and logs and the roof is thatched with Palmyra leaves to provide the lemurs shade and shelter.

Long wooden poles linked to wide wooden platform have been provided in the moat as a place for perching, sitting, sleeping, keeping fruits and vegetables and to accommodate more than one lemur for the purpose of mutual grooming. During peak summers the enclosure is provided with sprinklers to reduce excess temperature and have a cooling effect. The hygiene and health of the enclosure is regularly maintained by cleaning/ spraying with butax to avoid any harbouring pests. The boundary of the enclosure is provided with naturally planted stand-off barrier as a protective measure.

The night house is divided into four cubicles and a holding cell. As the lemurs are semi-arboreal, each cell is enriched with perching platforms to facilitate the animal. The night house is provided with adequate

light and with sufficient ventilation to prevent from accumulation of obnoxious gases and circulation of fresh air. These are used as holding kraal for treatment of any sick animal, to retain the animals during night. The night house is designed in such away so as to facilitate easy separation of lemurs if required. The floor of the night house is provided with a slope for easy drain of water. The hygiene of the house is maintained by cleaning the cubicles twice daily.

Behavioural aspects:

Ring-tailed Lemurs are highly social animals and in the zoo all the six animals live in a single group. Initially, when all the lemurs were kept in a group, one of the male exhibited dominance over the two males. The dominant male was separated for some time to avoid infighting and later was mixed with the group and now all the six animals live in a single group. They exhibit female philopatry and the core of the social group is the dominant matrilineal adult females are always dominant over adult males, reinforcing their dominance through agonistic encounters. Males have separate dominance hierarchy from females. The males are referred to as central and peripheral based on their relationship with females and their spatial proximity with the group. And the central males are dominant over the peripheral males. As one of the most vocal primates, the ring tailed lemurs uses numerous vocalization.

Reproductive biology:

Females usually produce their first offspring at the age of three, and annually thereafter. This can happen as early as 18 months in captivity. Mating is extremely seasonal beginning in mid-April with infants being born in August and September. Gestation lasts four and a half months. Generally Ring-tailed lemurs give birth to one offspring, but twins can be a frequent sight if food is plentiful.

Initially, infants cling to their mother's belly, but after about two weeks, they can be seen riding jockey style, on their mother's back. Infants begin sampling solid food after about a week and will become increasingly independent after about a month. They return to mom to nurse or sleep until they are weaned at about five

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We produce black - But our views are Green



Cultivation near Reclaimed Dump



Settling pond / Summer storage tank

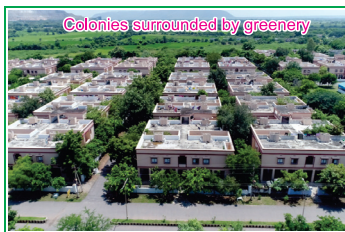


Eco-Friendly Park



Award in recognition of eco-friendly measures

- Pollution control and Soil Conservation Measures.
- About 5.50 crore saplings were planted in Singareni spread over area.
- Artificial forest covers to OC Dumps.
- Avenue plantation in colonies and roads.
- Eco-friendly parks developed in colonies.
- Sand manufactured from OB.
- STP/ ETP at all Colonies / Establishments.
- Efforts of Singareni were rewarded by State and National level awards.



Colonies surrounded by greenery



Reclaimed OB Dump



THE SINGARENI COLLIERIES COMPANY LIMITED

(A Government Company)

“Vrukshabandhan” Celebrations - Jagityal Division



Hon'ble MLA Dr Sanjay Kumar inaugurating the programme by tying Vrukshabandhan on 12.8.2022- seen with Sri B. Venkateswar Rao, Dist Forest Officer (4th from the left), Smt Daava Vasanta, Chairperson, Zilla Praja Parishad, Sri G. Ravi, IAS, District Collector, Smt Sindhu Sharma, IPS, Superintendent of Police



Presentation of Sri KVS Babu Memorial Gold Medals-2022 on 15. 8. 2022



Awardee: Sri S. Chalapathi Rao, FRO

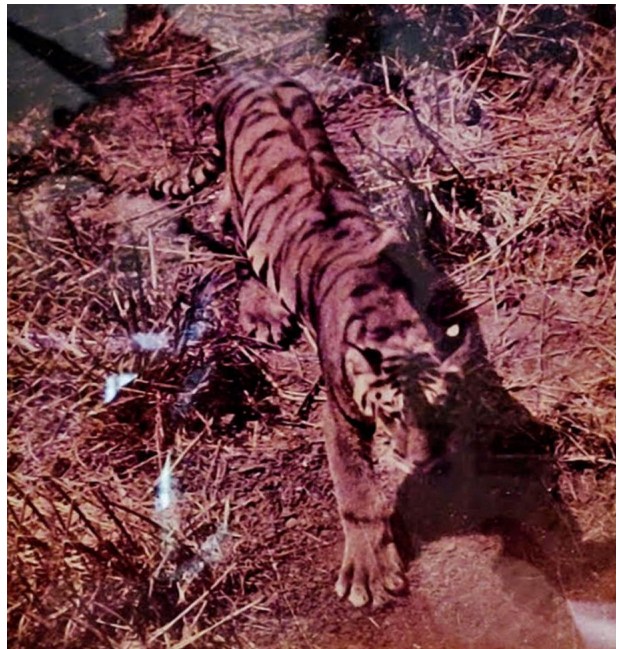


Awardee: Sri T. Sai Krishna, FBO

Photos by Mr Fredrick Walter Champion, IFS taken in 1944



From Bahraich Dist of UP



From Chittore -now placed at Laxmi Vilas Palace, Bikaner
(Courtesy: Sri R. Hemanth Kumar, IFS)



GOVERNMENT OF ANDHRA PRADESH ANDHRA PRADESH STATE BIODIVERSITY BOARD GUNTUR



Andhra Pradesh State Biodiversity Board have been playing a key role in Conservation of Biodiversity in Andhra Pradesh since its inception in 2006.

The mandate of the Board is to advise the Governments at various levels on matters related to Biodiversity Conservation. The three main functions of the A.P. State Biodiversity Board are -

1. Conservation of Biological Diversity
 2. Sustainable utilization of the Biological resources
 3. Fair and equitable sharing of biological resources among all stakeholders.
- APSBB have recently constituted 14,157 BMCs (Biodiversity Management Committees) at all levels of the state (13 @ Zilla Parishad Level, 661 @ Mandal level, 120 @ Municipality or Municipal Corporation level and 13,363 @ Grama Panchayat level) and prepared PBRs in electronic form for the first time in India.
 - Massive awareness & publicity activities have been taken up in the last 2 years to promote Biodiversity in the state of A.P. through short-films, publications, workshops & seminars online & offline.
 - APSBB initiated Core Activities Action Plan (CAPPs) for Operationalization of 10,000 BMCs through a special software platform developed.
 - 661 NGOs appointed as Mandal Biodiversity Coordinators for supporting APSBB/BMCs in implementation of CAPPs.
 - Rs 11.25 crores of ABS funds released directly to LBF (Local Biodiversity Fund) accounts of BMCs through online platform.

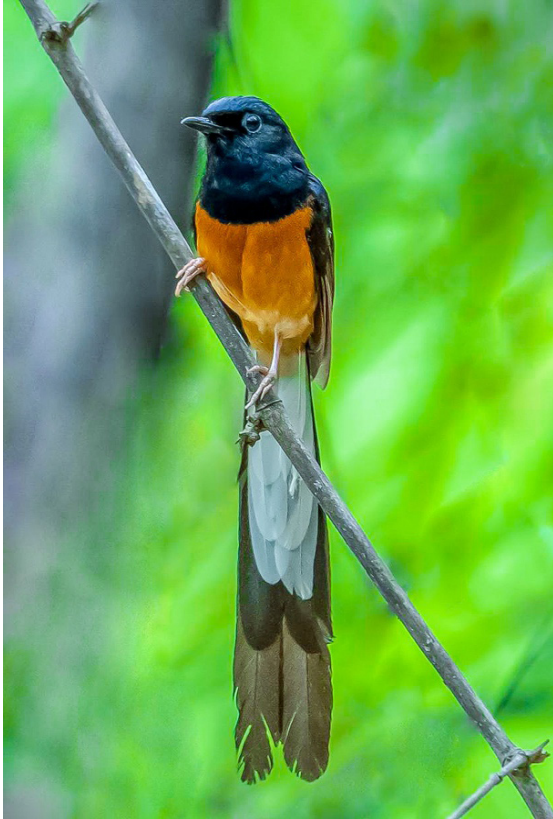


Dr. B.M.K. Reddy, ARS (retd.)
Chairman,
APSBB, Guntur

Come & Join Hands in
Biodiversity Conservation

Dr. D. Nalini Mohan, IFS,
PCCF & Member Secretary,
APSBB, Guntur

White-rumped shama (Left) and Green bee eater (Right).



Photos: Mohammad Hayath, FRO.

King Cobra (Article on page:44)



Photos: S. Madhu, Eastern Ghats Wildlife Society

Continuation from page No.28

or six months of age. All adult females participate in raising the offspring of the group.

The reproductive success of ring-tailed lemurs is highly dependent on environmental conditions. In exceptionally good years in the wild, age of maturation is earlier and birthrate and infant survival are much higher compared to years with severe environmental conditions such as drought.

In normal years, males and females reach adult size until three years of age, and do not reproduce until between 2.5 to four years of age. They exhibit ovarian synchronicity so that all of the adult females in a forest are in estrus at roughly the same time.

Because of the harsh environments in which they live, ring-tailed lemurs have high fecundity.

In Indira Gandhi zoological park the Ring-tailed Lemurs gave two litters each litter with two young ones. Out of the first litter, one baby died due to lung ailment.

Parental care

For the first three weeks of life, the mother is the primary caregiver to her new infant, but she is tolerant of other females in the group, especially siblings of the infant and other mothers. In the first days of life, infant ring-tailed lemurs cling ventrally to the mother, but by day three, they are able to move actively on her body and can climb onto another grooming female. By the age of one month, infant ring-tailed lemurs ride dorsally on their mothers and begin to explore their surroundings independently, spending about 16% of their time off of their mothers.

In addition to licking and grooming new infants, members of the social group provide varying degrees of infant care for the mother in a behavior called allo-parenting. In ring-tailed lemurs, all age and sex classes are seen caring for new infants in some capacity.

Longevity

In the wild, it is reported that female Ring-tailed Lemurs lived upto 16 years. In captive condition, the Ring-tailed Lemur can live up to 20-25 years.

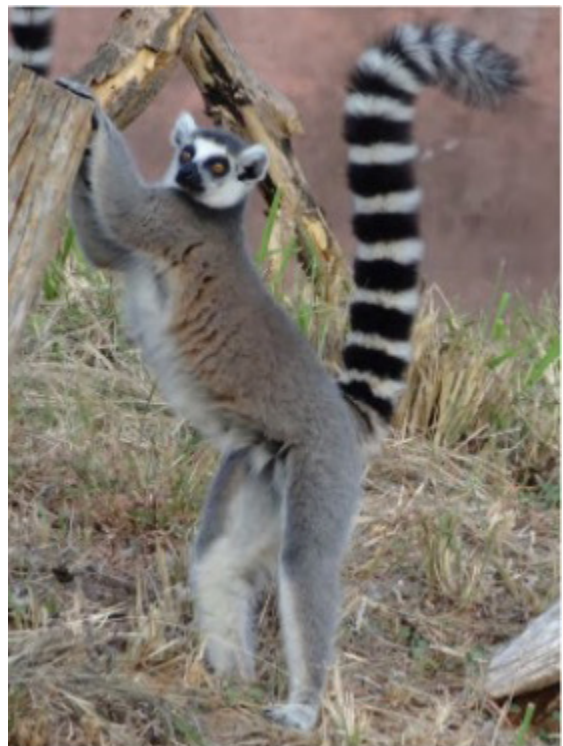
Social Structure

Ring-tailed lemurs are found in social groups ranging in size from three to 25 individuals. The groups are composed of both males and females. Females remain in their birth group throughout their lives.

Generally, males change groups when they reach sexual maturity, at age three. Ring-tailed lemur groups range over a considerable area each day in search of food, up to 3.5 miles (6 km). All group members use this common home range.

Females are dominant in the group, which means they have preferential access to food and choice of whom to mate with. Males do have a dominance hierarchy, but this does not seem important during mating season because even low-ranking males are able to copulate. Females have been seen to have closer social bonds with other female relatives in a group than they do with unrelated females.

The social bonds are established and reinforced by grooming. Prosimians groom in a rather unique way,



all prosimians have six lower teeth, incisors and canines that stick straight out from their jaw, forming a toothcomb. This comb is used to groom their fur and the fur of the other members of their social group.

One of the most unusual lemur activities that ring-tailed lemurs participate in is sun-bathing. They sit with their bellies toward the sun and their arms and legs stretched out to the sides. This position maximizes the exposure of the less densely covered underside to the sun.

Communication:

Ring-tailed lemurs have scent glands on their wrists and chests that they use to mark their foraging routes. Males even have a horny spur on each wrist gland that they use to pierce tree branches before scent-marking them.

Tail flick: Secretions from the wrist glands are rubbed on the tail and flicked at an opponent. Ring-tailed lemurs communicate visually in a number of ways as well. They also communicate using facial expressions.

Successful breeding of Lemurs in Vizag zoo:

Indira Gandhi Zoological Park, Visakhapatnam is the only zoo in India where successful breeding of Ring-tailed Lemurs has been done during 2014. The management has taken precautionary measures at each and every step to facilitate lemurs breeding.

- Large size of the moat enriched with grassy ground cover, long poles and dried trees/branches,



thatched sheds and machan for arboreal habit and maintaining naturalistic conditions near to wild that facilitated lemurs to functioning and exhibiting their primate characteristic features like jumping, perching, mutual grooming etc.

- Maintaining hygiene conditions by regular cleaning of moat, day kraal, animal house and spraying lime and bleaching powder as per requirement.
- Providing hygienic feed to the lemurs and giving pure drinking water.
- Taking precautionary measures during summer by providing sprinklers in the enclosure and fans in the night houses to reduce temperature and to check humidity.
- Providing the animals with feed rich in water so as to overcome dehydration and to supplement with glucose in water. Feed supplemented with vitamins during breeding season.

Three pairs of Ring Tailed Lemurs (3:3) were brought from Jerusalem Biblical Zoo, Israel and now the number has increased to (8) eight. This is an attempt to put forth the success story of Ring-tailed Lemur Breeding bin Indira Gandhi zoological park, Visakhapatnam.

DIET

Ring Tailed Lemur is an opportunistic omnivore primarily eating fruits and leaves. The diet chart of Lemur catta contains a wide variety of plants, Rinorea greveana, Pithecelobium dulce and the mature leaves & fruits of the Tamarind or kily tree, Tamarindus indica. They also feed on fresh leaves, fruits of many species, melons, sweet potato. In Indira Gandhi Zoological Park, Visakhapatnam utmost care is taken while providing feed to the lemurs. It is ensure that all the feed supplied to the animals is cleaned thoroughly. During summers the water is supplemented with glucose to prevent from dehydration. The daily diet chart is as follows (6 individuals' adults)

Bananas	-	1 Dozen.
Grapes	-	½ Kg.
Apple	-	4 Nos.
Boiled Eggs-		6 Nos
Guava	-	12 Nos.
Carrot	-	250 grams
Bread	-	1 Packet (300 grams)
Honey	-	25 grams

Lemurs have a low basic metabolic rate compared with other primates. Several behaviors exhibited by Lemurs (Basking & huddling) are related to energy conservation. They also possess dense coats compared with other tropical primates.

Veterinary Care and Feed Supplements

- Multivitamin tablets
- Polybion syrup
- Vimeral syrup
- Glucose
- Mineral water for daily consumption. Periodical Faecal Sample screening every month. Deworming: once in 3 months mass de-worming with solution



Albomar tablet – Panacur (Dosage as for the body weight of an animal).

Wounds treatment

Wound cleaning with solution Betadin, Nebasulf powder for dressing and application of ointment Loraxin.

Antibiotics: Lixen powder was given with food.

Conclusion:

By taking precautionary measures at each and every point right from moat designing, hygiene, diet, veterinary assistance, Indira Gandhi Zoological Park management is successful in breeding of Ring-tailed Lemurs for the first time in the country to a viable number. To avoid inbreeding and to infuse new blood (heterozygosity), Ring-tailed Lemurs would be exchanged soon from Taiwan zoo.

From the present number, founder stock will be selected by genetic profiling with the help of LaCONES, Hyderabad and these will be translocated to off-display area to breed as per CZA guidelines with intensive monitoring and management.

Acknowledgement:

I would like to express my sincere gratitude to Sri. P. Mallikarjuna Rao, IFS, PCCF (Retd), Andhra Pradesh for his support, guidance and encouragement in bringing animals (RT Lemurs, Marmosets etc.) from Israel and other countries.

(The author is the Chief Conservator of Forests, Adilabad Circle, Telangana and can be reached over mobile:9440810154 and email: atgamineniramalingam66@gmail.com).



In commemoration of International Literacy Day (September 8): **Benefits of Reading Books**

Dr B Raghotham Rao Desai, IFS (Retd.)

“Whoever have, will be given more: they will have in abundance. Whoever does not have, even what they have will be taken from them”

– A Biblical verse (Mathew 13:12)

Prologue:

Reading has tremendous power and when it comes to fuelling the development of all aspects of language ability, its importance to the entirety of a human life in these times cannot really be overstated. To help underscore this point, I would like to state that books do increase our range of vision as they acquaint us with different cultures, their customs, ethnicities, their religions and traditions ----- a good part being that they can be read on the move or at leisure! Emotions after all being universal, books engage everyone.

A good book may seem to be sheaf of papers but it is much, much more ---- leaving us richer and wealthier, driving away feelings of loneliness. Arguably it becomes our bosom-friend in the current turbulent times, while laying a firm foundation for greater things. It being the case, can anyone refute the benefits of reading when it certainly aids the development of fluency of thoughts, while our vocabulary & expression acquires a new dimension? Additionally, one's listening, reading and speaking skills get refined!

Literacy being a bridge from misery to hope, once a person learns to read he will be forever free---- whenever a good book is read, somewhere a door opens to allow in more light. To read is like lighting a fire, every syllable spelled out is like a spark. Indeed when one learns to read, one will be reborn and will never be quite so alone again---- one even begins to take flight into whole new world as effortlessly as a young bird takes to the sky.

The greatest gift is a passion for reading ---- one should read anything got one's hand is laid on until words

become friends, books being a sort of uniquely portable magic, they are like lighthouses erected in the great sea of time. Reading is to the mind what exercise is literally to the body. Writing is unarguably the greatest of human inventions, binding people together of distant epochs who never knew one another!

Fact file:

A house without books is unexaggeratedly like a room without windows. Reading is important because one can learn anything about everything and everything about anything ---- books being the key to the wide world. One should grow up to the kind of person who thinks decorating his residence mostly with book shelves. One should not mind wearing an old coat but should certainly go to buy a new book, if one can read one can live as many lives as one can wish, not just one, even by imagining that paradise will be a kind of library.

To read is like flying ----it is to soar to a point of vantage which gives a view over wide terrains of history, human variety, ideas, shared experience and the fruits of many inquiries. We cannot give a greater gift to a child than the ability to read. Perhaps the world is divided into 2 groups of people---- those who read books and those who do what those readers say, the ability to read being the most prized intellectual skill anyone possesses and it being only through reading that one can be freed from the bondage of ignorance. Readers being leaders, if the clothes one wears are more expensive than the books one reads, probably one is not ready for greatness---- always one should read something that will one look good if he dies in the middle of it! A person should either write something worth reading or do something worth writing.

Epilogue:

The power of reading helps to develop inference and deduction and comprehensive skills, involving one regularly writing in different genres and creating a more cohesive learning experience----- literacy being at the heart of the curriculum & the texts facilitate a range of exciting cross curricular works, the benefits including fostering concentration, strengthening writing skills, sharpening memory, increasing knowledge and improving theory of mind.

Reading a book reduces stress and puts one in a better mood. When you read, it transports you and your mind to another place, so you won't feel so overwhelmed with the hardships of everyday life---- reading for just 6 minutes is said to reduce stress levels upto 68% and people who read regularly are 2¹/₂ times less likely to have Alzheimer's, there being a correlation between intellectual pursuits and prevention ---- reading can thus be therapeutic intelligence ---- even just perceived intelligence----- being one of the most attractive qualities, reading helps to boost one's analytical thinking , while opening a book surely makes one a better writer. Interestingly, fiction books increase one's ability to empathize with others.

(The author belongs to Karnataka Cadre and the Chief Editor of 'Vana Vikas', a Quarterly)

Continuation from page No.26

is the effort every human being does when it comes to life and death. The palms got bruises while crawling, but that didn't stop us climbing up the banks.

We were keenly observing the growling sounds and any movement of the king of the Jungle. The growling sounds gradually mellowed down and eventually stopped. We all took a sigh of relief. Then we moved diagonally opposite to the direction where the tiger is sitting and once again joined the Lal Jheel Nallah after about one Km and continued our census operation.

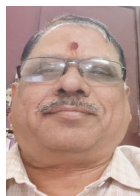
After the entire incident, we tried analysing the behaviour

Books allow readers to travel without using their feet, giving wings to imagination. Reading requires the brain to be active and makes one smarter, improving capacity for memory and concentration. It makes one think and apply what has been read, actually improving reasoning skills. Reading builds connections with other people, even if the only other person is the author! The purpose of reading is to connect the ideas on the page to what one already knows. Through books, one learns to understand people, learns to stay calm, becomes intelligent and turns to be smart.

Reading books benefits both physical and mental health and those benefits can last a lifetime---- beginning in early childhood and continuing through the senior years. Reading is said to involve a complex network of circuits and signals in the brain and as reading ability matures those networks also get stronger and more sophisticated. Long term fiction readers are stated to tend to have a better-developed theory of mind. Through the reading period and for days afterward, brain connectivity gets increased in the part of the brain that responds to physical sensations like movement and pain.

of the tiger. The human prey was very much in its reach, had it wanted it would have easily taken one of us. But it simply warned us not to enter its comfort zone. This is a big lesson for us. The tiger wouldn't attack humans as it is not its regular prey. It attacks only when one enters its comfort zone. It also warns us before it takes any final decision of attacking. In the evening we reached the rest house. After reaching there I called all other group members and narrated entire sequence and appreciated all our team members Infront of their colleagues for their bravery and unity.

(The writer is former Prl. Chief Conservator of Forests, UP, YouTuber and a wonderful Wildlife photographer. He has his own YouTube channel 'Nature Revisited' connecting his passion with purpose. He can be contacted over mobile: +91 9411052235 and email: praveenraokoli@gmail.com)



Mangroves - A Neglected Eco-System

Dr Akula Kishan, IFS (Retd)

Introduction

Mangroves are shrubs or small trees that grow along coastlines and in brackish water, or water that is part salt and part fresh. In fact, these trees have adapted to grow in low-oxygen soil, where saltwater intrudes several times a day and where slow-moving water introduces fine sediment and particulates.

Mangroves are included in 'Wetlands' and Wetland is defined as 'areas of marsh, fen, peat land or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tides does not exceed six meters'

There exist marine and coastal wetlands such as open coasts, coral reefs, estuaries, tidal flats, mangroves and coastal lagoons; Inland wetlands such as permanent and seasonal rivers, inland deltas and floodplains, permanent and seasonal lakes and ponds, marshes, freshwater swamps and peatlands as well as Human-made wetlands such as reservoirs, barrages and dams, aquaculture ponds, excavations and burrow pits, wastewater treatment ponds, irrigation canals, ditches, irrigation ponds and rice fields. Often these wetland types are interlinked hydrologically and ecologically, merging into one another and the larger landscapes.

Mangroves in India

According to report of Forest Survey of India 2021, the current assessment shows that Mangrove cover in the country at 4,992 sq.km, which is 0.15% of the country's total geographical area. Very Dense Mangrove comprise 1,475 sq.km. (29.55%) of the Mangrove cover; Moderately Dense Mangrove is 1,481 sq km (29.67%) while open Mangroves constitute an area of



2,036 sq. km (40.78 %). There has been a net increase of 17 sq.km.in the Mangrove cover of the country as compared to 2019 assessment. The States that show significant gain in Mangrove cover are Odisha (8 sq km) and Maharashtra (4 sq km). The reason for the increase in Mangrove cover is mainly due to the natural regeneration, plantation activities. In Andhra Pradesh the area under mangroves is reduced to 397 sq.km (1999) from 495 sq.km (1987).

Benefits from Mangroves

- (a) Mangrove species exhibit a variety of adaptations in morphology, anatomy and physiology to survive waterlogged soils, high salinity
- (b) As the Mangroves are located on coastline they act as breakers for tidal surges and cyclonic storms.
- (c) Mangroves associate with other ecosystems including sand flats, mudflats, algal beds, sea grass beds, and coral reefs. Such associations result in the flourishing of a number of species of birds, mammals, reptiles, and fish.
- (d) Due to the special composition of mangrove trees and the structure of their roots, mangroves can filter ocean waters. Consequently, they have the capacity to render water safe for human populations and surrounding ecosystems.

- (e) Mangroves serve as a major "blue carbon sink", meaning they are excellent at absorbing and storing carbon from the atmosphere. Like all trees, they sequester carbon as they grow and turn it into their leaves, roots and branches. However, because mangroves live at the coastline, when they die, the carbon stored in their pieces falls to the seafloor and becomes buried in the soil. Trapped here, it doesn't re-enter the atmosphere if it remains undisturbed.
- (f) It is estimated that mangroves act as carbon dioxide depository to hold up to four times what rainforests can, making their survival critical to the planet's survival against the climate crisis.

Legal Protection

The Ministry of Environment, Forest and Climate Change (MoEF&CC) has notified Wetlands (Conservation and Management) Rules, 2017 under the provisions of the Environment (Protection) Act, 1986 as regulatory framework for conservation and management of wetlands in India. This is a significant step to conserve, manage and maintain the ecological character of the wetlands without restricting the wise use.

The Government of India in their letter dated 08.03.2022 have communicated the directions of Hon'ble Supreme Court of India in M.K.Balakrishnan & ors Vs Union of India & ors (W.P.(Civil) No.230/2001) dated 04.10.2017, wherein it was directed that the 2,01,053 wetlands (> 2.25 Ha) mapped by Union of India should be protected on the principles formulated in Rule 4 of the Wetlands (Conservation and Management) Rules, 2017. Government of India reiterated to all States and Union Territories to protect the wetlands irrespective of the applicability of notification as per the said Rules.

Notification dated 18.01.2019 regarding Coastal Regulation Zone (hereinafter referred to as the CRZ) under section 3 of Environment (Protection) Act, 1986 mentions the Mangroves under CRZ-IA. As per this CRZ Notification, for those projects which are covered under this notification also attract EIA notification, 2006

(S.O.1533 (E), dated the 14th September, 2006), for such projects clearance under EIA notification only shall be required subject to being recommended by the concerned State Coastal Zone Management Authority headed by Chief Secretary of the State.

The present scenario

The Mangroves are fast disappearing due to various factors and some of them are:

- Most of the species in the Mangroves have high calorific value and is excellent fuel wood, and hence the nearby communities cut and remove the species as fuel wood.
- The main threat to mangroves is shrimp (prawn) farming, tourism, agriculture, coastal development and the charcoal and timber industries.
- Mangrove area is diverted for establishment of seaports. For instance, the port of Mundra, in Gujarat, has been condemned globally for severely degrading Indus delta mangroves. Likewise, Paradip Port in Odisha has also been reported to have built over dense patches of Mahanadi delta mangroves.
- The natural regeneration is hampered due to biotic interference and the artificial regeneration, wherever attempted, is of limited success.
- In some areas the mangroves are removed and the land so reclaimed is put for agriculture.

Conclusion

The Forest Eco-system can be attempted to be restored by closing the area and protecting from biotic interference and allowing the Nature to re-clothe itself. But Mangrove Eco-system cannot be restored in similar manner due to the complexities involved many of them are not yet understood. The Government programs are not much into the conservation of mangroves and this eco-system is most neglected. Due to rampant human exploitation in coastal regions and the accelerating impacts of climate change including rising sea-levels, altered weather patterns, and the acidification of the

Contd.. on page No.43



Pawns In The System

Siddhanta Das, IFS (Retd.)

During our training in the Indian Forest College (IFC), Dehradun, we were on East India Tour in January-February of 1983. While camping at Varanasi, we got a message from IFC that the tour was called off and we were asked to await further instructions. The next day, on 26 January 1983, we came to know that Assembly elections would be held in Assam and our services had been requisitioned to conduct the elections. In those days, Assam was in turmoil due to anti-foreigners agitation led by All Assam Students Union (AASU) and All Assam Gana Sangram Parishad (AAGSP), demanding that the Government of India detect, disenfranchise and deport illegal settlers. They wanted the general elections stalled till their demands were fulfilled and the Government of India was determined to conduct the elections. But the main problem was that local officials, either supported the agitation or were too scared to defy the agitators. Therefore, Union Government decided to conduct the elections by engaging probationers from the All India and Central Services as presiding officers and ministerial staff from West Bengal, who knew Assamese script as polling officers. To motivate ourselves for the national responsibilities reposed on us, all of us together went to see Richard Attenborough's epic film 'Gandhi', which was released on that day. The following morning, we boarded a train for New Bongaigaon.

It was a long and torturous journey and on reaching, were taken to Cotton College, Guwahati, under heavy security cover. Our seniors from the 1981 batch, our batchmates from the other group, probationers from IAS and several central services had already reached. Elections were to be held in February in three phases, but we were taken there 15 days in advance for necessary training. It was a boring fortnight; training was imparted for about a couple of hours in the afternoon and we were just hanging around for rest

of the day. We were not allowed to step outside the college campus due to security reasons. The food served was quite monotonous, rice/ puri/ roti, cabbage curry and dal (Bengal gram) for breakfast, lunch and dinner. We felt like prisoners. We mostly played cards and Ludo to kill time.

After a few days, 60 of us were shifted to a school at Boko. Here the conditions were even worse. In a couple of days, nine of us moved to an Inspection Bungalow (IB) in the middle of nowhere for the first phase of polling. Those in charge of us were not sure whether food could be arranged, so we were provided 'sakkar para', a type of dry confectionery. The situation was so tense that some of us, including me, forgot to carry the precious dry snacks. We were taken in a bus with about 20 constables of the Provincial Armed Constabulary as our bodyguards. There were five escort vehicles, three in front and two following us. A motorcyclist piloted the carcade to rule out landmines that may have been laid. We hardly moved 5 km an hour and reached the IB in the evening after a stressful ten-hour journey. A mean-looking official met us after a couple of hours and provided us with a few boiled eggs for dinner and lectured us. "Why are you acting as pawns of the Government of India and trying to foil the rightful agitation by our people? Due to official compulsions, I am here, but I don't give any guarantee for your safety." I need not explain our predicament under such circumstances.

In the morning, we were taken to our respective polling booths. There was a sharp divide on ethnic lines; those villages where people were not divided were relatively safe, either they would vote en-masse or completely boycott, but villages with mixed population were volatile. The village to which I was assigned supported the elections and there was a huge turnout. The

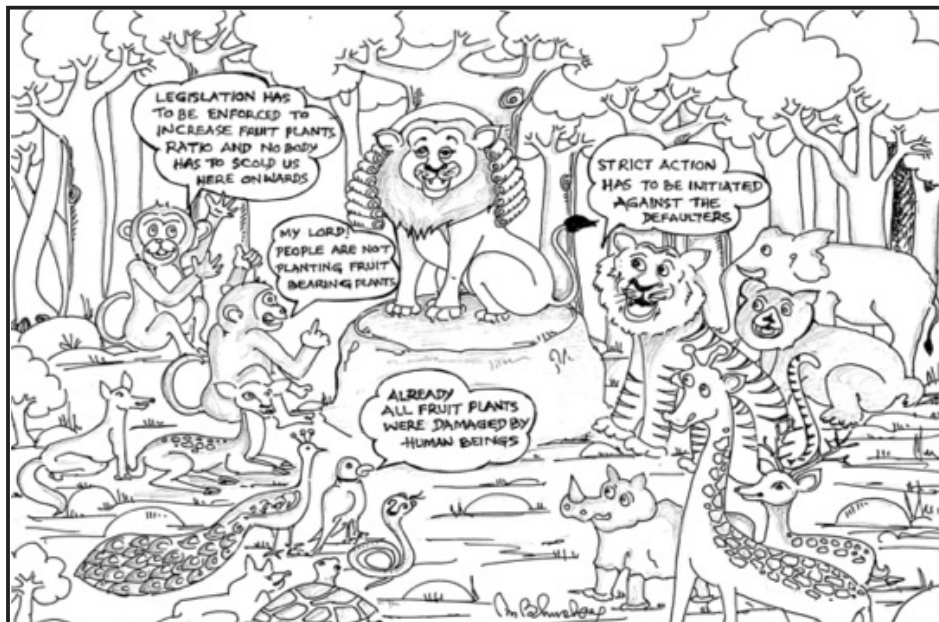
process appeared to be an endless one. They offered lunch but the prevailing tension was so palpable, I declined. In a neighbouring polling station, a colleague had an interesting experience; the voter turnout was so large that he ran out of ballot papers. But people insisted to vote, and finally to wriggle out of the situation he drew the symbol of their favourite political party on a large piece of paper and asked them to put their thumb impressions on it. Three officials had a similar experience as mine, three others were back early as no one came for voting, but the rest three had a torrid time as there were clashes between communities and the para-military forces struggled to keep the violent crowd under control. After reassembling in the IB, we eagerly waited for our departure. It was an endless wait; finally, late in the evening, we were told that it would be unsafe to travel at night. Dinner had not been arranged but that really didn't matter. The next day, we were told that it was taking time to arrange for security, and we could

finally leave around 4 pm. We were famished by the time we reached Boko; we just had two boiled eggs in 48 hours.

Our group was also required to conduct polling in the third phase. My polling station was in a tribal village on the Meghalaya border. The polling party had to walk about six kilometres and wade through a stream. There was not a single soul in the village. On the way, we just met one person, he informed, "I am from Meghalaya, all the villagers are hiding in forests lest you might force them to vote." We waited for a while, had our 'Sakkar para' and sealed the ballot boxes and returned early to reach our base camp before sunset.

Our return journey back to Delhi was by flight from Guwahati. At the end of the day, the Government of India had the satisfaction of 'smoothly' going through the process of its constitutional obligations and we had the excitement of experiencing our maiden flight.

(The author belongs to Odisha cadre and is expert member of the National Green Tribunal (NGT) and former Director General (Forests). Currently he is the Chairman of the Odisha Real Estate Regulatory Authority (ORERA). This article is part of the author's column 'By the Grace of God' and was first published in odishabytes.com dt Aug11,2022.)



By D. Nagabhushanam, IFS (Retd.)



Ideas and Innovations (Part-2)

Fertile Area for Forestry Extension

Dr K.Tirupataiah, IFS (Retd.)

“Necessity is the mother of Inventions”

The adverse climatic conditions in Ananthapur do certainly challenge one in work. But they also provide opportunities to innovate. Being credited (infamously) as the district receiving the second lowest rainfall in India (average rainfall of 520 mm), any activity to do with rainfall/moisture has to be done not only right on time but in a manner that effectively utilizes the scarce resource.

One shot two birds: Soil moisture conservation and plantation

Scarce top soil, rolling nature of topography, rains with long intervals and flash floods over centuries made the soil highly refractive and with very low moisture holding capacity. If plantations are done in the normal manner/method, seedling would not get enough moisture for extended periods and their survival would be adversely affected.

The then Conservator of Forests came up with a brilliant idea that addresses both the above issues. Thus evolved the trench-cum-pit/pit-in-pit method. In the first instance, a trench/pit of 15 cm depth is taken with dimensions ranging from 60x60 cm to 100x100 cm, depending on the type of seedling being planted and the slope of topography. At the center of this trench/pit is the second pit ranging from 30x30 cm to 60x60 cm where the seedling is placed. In this method, the first trench/pit ensures capturing adequate rain water, hold it for many days, allow it to percolate in to the soil around the seedling slowly. Thus, soil moisture is available for the seedling for an extended period leading to greater chances of its survival.

The size of the trench-cum-pit and its orientation could be flexible based on slope of soil. Where the land is more or less flat or has very gentle slopes, the above

method suits perfectly. Where the soil slope is more, the trench is dug on the upper side and the dug soil is deposited on the lower side to complete the trench-cum-pit. Some random observations revealed that moisture was available at root level even after 15 days after rainfall.

Call of the degraded forest

“Molaka” in Telugu means germination and “Vemu” means Neem. There is a forest block in Ananthapur district, on way to Kadiri, that is named Molakavemula. Another idea that came up out of brainstorming is to test the regeneration capacity of a part of this degraded forest block.

The first intervention that was taken up was to protect the area from over grazing. A combination of Cattle proof trench (where soil is available and down slopes) and random rubble stone wall (where there is no soil and on up-slopes. Where trench was taken, the dug-up soil was put on the downside and agave is planted on the bund so formed. Where trench was dug, inside the trench septa were provided to ensure that rainwater gets filled up and percolates in. Wherever septa were provided, species like Sisham, Glyricidia were planted. These interventions completed the first level of innovations.

Once the area is protected, then the next set of interventions included treatment of the drainage lines. Locally available random rubble stones were utilized to plug the gullies with an idea to slow the speed of run-off water. Care was also taken to ensure that drains do not converge leading to flash flooding. This intervention helped the farmlands immediately adjoining the forest block in two ways i.e., a. it prevented the crop damage from flash floods and, b. due to slow percolation of rainwater above, soil moisture was available downstream for prolonged periods.

The third set of interventions involved SMC works in the selected area. Continuous contour trenches were taken up in a staggered manner to capture rain that fell in the area. The trenches acted as rain catching devices and plantation of Neem (vemu), tamarind and other local species were taken up. This completed the treatment of general area from forestry point of view.

Now the attention is turned to how to get buy-in from the villagers especially the farmers. It was informed that at one time, the forest block provided enough fodder that farmers cut in winters and stored and used in dry summers. In order to address this issue, Hamata seed was broadcast in the whole area. The protected area first surprised us with copious regeneration of native grasses. Then hamata grew up like a thick carpet. Meetings were held with local farmers and they were taken on a visit to the treated area. They were as much surprised as we did. It was a win-win situation. Farmers were allowed to cut grasses in winter and take them away for silo making and preserving for the dry summer. Surprise, surprise..... The pilot work taken up to test/ demonstrate the regeneration capacity of degraded

forest lands resulted in surprise of an unexpected nature. Within three years of this intervention, the forest block had regeneration of TEAK that grew up to six feet. We could never imagine that teak could still regenerate in such harsh conditions and on such degraded hilly areas. The then District Collector visited this area number of times while on travel and he was convinced that this method of natural regeneration was not only cost effective but was also scalable to large areas. He assured support through Drought Prone Areas Program (DPAP).

Tekulode

Can anyone imagine that once up on a time Teak was transported from the district? On a visit to plantations around Lepakshi-Somandepalli, someone told us that there is village named "Tekulodu". We visited the village and interacted with some elders. Some of them confirmed that they too heard from their grand fathers that once up on a time teak was transported from the village. Hope some time in future, generations to come would witness Teak plantations/Forest in this drought prone area reversing the degradation.

(The writer is retired PCCF, Telangana and currently working as Chief Consultant (Training) at Dr.Marri Channa Reddy HRD Institute of Telangana, Hyderabad.for Telangana State Forest Academy Dulapally, Hyderabad-500100. Feedback-Mobile:8885532021 Email:kota_86@rediffmail.com)

"The secret to happiness is low expectations."

-Barry Schwartz

Continuation from page No.39

oceans, the health of mangrove forests around the world is deteriorating at an alarming rate.

For instance, Gujarat is the single largest producer of salt in India and contributes 80 per cent to the total marine salt production of the Country. Large portion of mangrove areas were leased to industries for the creation of salt pans. As a result, the salinity level in Gujarat's soil and water is very high and this is reducing

the natural regeneration of mangrove forests. The State government of Gujarat has recorded that over 14 species of mangroves have already become extinct.

It is imperative that the Governments at Central and State level bestow much needed attention to retain the existing mangroves as the Mangrove Eco-system cannot be replicated even by spending millions of rupees.

(The author is Retired Conservator of Forests, Telangana State, authored many books on Forest and allied Acts, Forest Code and drafted various amendments. Currently he is working as Legal consultant to the AP Forest Department and a practicing Advocate in the AP High Court.)



Conservation of the King Cobra in the Eastern Ghats by Eastern Ghats Wildlife Society in collaboration with AP Forest Dept.

- Murthy Kantimahanti

Project need

The Eastern Ghats are a discontinuous range of mountains along the east coast of South India. Several species of snakes inhabit the region owing to the fact that the landscape is diverse with different habitats like deciduous forests, wetlands, grasslands, sea coast and rivers. Human-snake conflict is on the rise in the recent past due to habitat destruction and loss of natural prey populations. Many species of venomous and non-venomous snakes are killed every day by local people and the king cobras are no exception!

The King Cobra (*Ophiophagus hannah* Cantor, 1836) is the largest venomous snake in the world, reaching to a length of up to 5.85m (Aagaard 1924). Indiscriminate killings of King Cobras at an alarming rate in the Eastern Ghats of India due to fear and ignorance is a serious threat to the species. Local people have been killing them on sight unnecessarily out of fear and false-beliefs throughout the northern Eastern Ghats region of Andhra Pradesh. We have documented as many as 30 adult king cobras deaths since the last 3 years as a result of redundant killings at different locations across the northern Eastern Ghats region of Andhra Pradesh state in South India. And many more killings go unnoticed. This indicates a deep intolerance among people and lack of measures to prevent such incidents. Baseline data about the species from the region is also rudimentary. The species could be locally extirpated due to drastic population declines if these rates of mortality continue.

In addition, there has been an unprecedented rise in human-snake conflict leading to casualties on both sides. More than 50,000 people die each year due to



snake bite in India and Eastern Ghats is no exception. The World Health Organization classified snake bite as one of the most neglected tropical diseases in 2017. Besides, several other snake species are either killed or run over by vehicles almost every day in many parts across the region. Therefore, there is an urgent need to address these threats through appropriate site-specific interventions and build local capacity among all identified stakeholders.

It is very important to note that only four species of snakes living in the Eastern Ghats are responsible for the high number of serious and fatal snakebites. These are: Spectacled Cobra (*Naja naja*), Russell's viper (*Daboia russelii*), Common Krait (*Bungarus caeruleus*) and Saw-scaled Viper (*Echis carinatus*), referred to as the Big Four venomous snakes of India. There are no recorded human deaths by King Cobra bite in the Eastern Ghats, partly because it is a rare species and also because it is a very intelligent and alert species which knows how to avoid humans.

Most people are unaware of the fact that the King Cobra is a snake eater and targets large species of snakes including cobras, kraits and vipers and thus is a very important controller of these snakes which kill so many people.

The rural communities in India are mostly poor with marginal economies and without proper literacy. Lack of knowledge and access to technology makes them vulnerable to indecisive actions in the event of a human-snake encounter. Appropriate capacity building measures can result in a behavior change which is mutually beneficial to both humans and snakes. Therefore, a win-win situation could be achieved.

All Indian snake species are projected under the Schedule-I, II & IV of the Indian Wildlife (protection) Act of 1972 and therefore, they receive legal protection and any offense will be subject to prosecution under the law.

Project Goal: To protect threatened King Cobra populations as well as other snake species through human-snake conflict mitigation, habitat preservation, education and community outreach in the Northern Eastern Ghats of India.

Project execution: The project was initiated in 2016 after consulting reptile experts all over the world, senior forest officials and herpetologists from Madras Crocodile Bank Trust in Chennai. Sri Rahul Pandey, IFS., was the then Chief Conservator of Forests at Visakhapatnam. He encouraged and guided us all the way through his tenure which laid the foundation for the project's reach.

To achieve the aforementioned goal, it is imperative to build capacity within the local communities through providing on-the-ground solutions for safe removal of snakes and incorporating educational interventions in all the programs in order to transform them into empowered citizens who can eventually deal with human-snake interactions more effectively and also assist in conservation of the species.

1. Capacity building of local communities: We accomplish this action by organizing awareness workshops, social media campaigns and community outreach programs in identified villages within the Eastern Ghats of India. We also established snake rescue field office at Cheedikada where our staff works closely with the rural communities and frontline staff of the forest department to rescue problem snakes and deal with snake bite issues more effectively.

2. Mitigation of human-snake conflict: Coupled with education and awareness programs, we implement site-specific mitigation measures which could minimize negative interactions with snakes. These include the following efforts: wearing proper footwear at night, using mosquito nets while sleeping, carrying a light while walking at night to avoid stepping on snakes, and promoting simple changes in land use management, such as removal of bushes and garbage that might provide shelter to snakes.

3. Community-based conservation of snakes: We train identified local individuals in rescue and rehabilitation of threatened snake species like King Cobras and first aid techniques in the event of a snake bite. These "rescue teams" will also act as liaisons between local communities and wildlife authorities through regular communication on incidence of snake bites. We will carefully identify the individuals engaged in killing snakes and work with them to transform them from "Snake Killers" to "Snake Saviours".

4. Foster support for snake conservation: We publicize the project activities to convey the conservation message to the public at large on the importance of snake conservation and habitat preservation using

various communication channels using social media and local print and electronic media.

Project Achievements:

- More than 50 king cobras, which otherwise would have been killed, were rescued by the team from Srikakulam, Vizianagaram and Visakhapatnam regions.
- More than 600 field staff from 11 different forest divisions were trained in snake rescue, rehabilitation, snakebite prevention and treatment protocols.
- More than 70 king cobras were given safe passage by locals without molesting as a result of years of outreach and sensitization by the project team
- People from 45 villages in Cheedikada, Madugula and Devarapalli mandals don't kill king cobras and snakebite incidents have also been reduced in these villages over the past few years.

- The project's success was appreciated by senior forest officials of Andhra Pradesh Forest Department and also Central Zoo Authority at New Delhi which invited the team to present their conservation work on the eve of Azadi Ka Amrut Mahotsav in May 2021 as part of Pilikula Zoo's celebration.
- Several presentations were also given on international conservation platforms by the project team members over the last 5 years.
- Identified critical habitat patches as hot spots for conservation of king cobras in Northern Andhra Pradesh.

Future Plans: To establish the first ever king cobra reserve in the country at eastern ghats region of Andhra Pradesh by working with the state forest department and expand the snake conservation program to other king cobra range states within the country.

(The writer is the Founder-Eastern Ghats Wildlife Society, Visakhapatnam and can be contacted over email: klnmurthy25@gmail.com and mobile: 8142827308).

NASA said that there is more greenery on the Earth than 20 years ago, which has been credited by India and China. In the last 20 years, India and China have planted quite a lot of trees, you can see it in the picture above. India is breaking the world record in plantations, with 800,000 Indians planting 50 million trees in just 24 hours. The most important conclusion from the data is that the increase in green areas on the planet is almost entirely due to human action. But we do not have to stop now, I request everyone to plant some trees. Information Source: Human Activity in China and India dominates Greening of Earth.

LEGAL NOTES

Virendra Dutt Gyani Vs. Union of India and Ors.

K. Buchi Ram Reddy, IFS (Retd.)



(A judgment for regulating pension payment to a High Court Judge)

This is yet another judgment of Gauhati High Court where a retired judge was forced to seek remedy against the view held by bureaucrats in understanding of a simple English expression “from 80 years” in dealing with his pension.

Virendra Dutt Gyani was an Advocate practicing in Madhya Pradesh High Court. He was elevated as a judge of High Court in May 1984 and he was then transferred to Gauhati High Court in April 1994. He retired on 29.07.1998 as Ag Chief Justice after superannuating at the age of 62 years. After retirement he started drawing his pension from 01.01.2006.

The petitioner's conditions of service as a Judge are governed by the High Court Judges (Salaries and Conditions of Service) Act 1954. According to the Act, a High Court Judge is entitled to 20 % of the additional quantum of pension on the basic pension from 80 years to less than 85 years.

Sri Virendra Dutt Gyani was born on 30.07.1936. He completed retirement period of 79 years on 29.07.2015 and entered into his 80th year on 30.07.2015. He became entitled to additional quantum of pension at 20 % of the basic pension w.e.f. 30.07.2015. He submitted representation on 01.01.2015 to the Manager, State Bank of India Proceedings Centre, Bhopal. There was no reply. Therefore, a Legal Notice was issued for payment of additional quantum of pension. w.e.f. 30.07.2015. The Director in the Department of Justice in the Min. of Law and Justice, Government of India was of the opinion that he would be entitled to the benefit from 01.08.2016, i.e on attaining the age of 80 years on 30.07.2015.

Sri Virendra Dutt Gyani filed W.P. No. 4224 of 2016

on 15.03.2018 before the Gauhati High Court. The following were arraigned as the respondents in the Writ Pension:

1. Union of India rep. by the Secretary in the Ministry of Law and Justice, New Delhi
2. The Central Pension Accounting Office, Government of India, New Delhi.
3. The Accountant General A & E Accountant General Assam, Gauhati
4. The Gauhati High Court rep. by the Registrar General, Gauhati
5. The Manager, State Bank of India, Centralised Pension Processing Centre, Govindapur
6. The Branch Manager, SBI, PBB Br. Indore.

All the respondents were unanimously of the opinion that the 20 % of basic pension as additional quantum of pension is payable not from the commencement of 80th year of age but on completion on of 80 years of age.

The matter was heard by a Division Bench comprising The Hon'ble Justice Ujjal Bhuyan and The Hon'ble Justice Nelson Sailo. Counter affidavit in opposition of the writ petition was filed by Respondent-3. He contended that 20 % additional quantum of basic pension is payable only on attainment of age of 80 years w.e.f. 30.07.2016. In reply affidavit filed by the petitioner it is asserted that additional quantum of should be paid w.e.f. 30.07.2015 and not from 30.07.2016. It was submitted that the expression: “from 80 years” means from the commencing point of 80th year.

Their Lordships went through the provisions of the High Court Judges (Salaries and Conditions of Service) Act 1954 and made an in-depth study of its implications.

The petitioner had retired from service on attaining the

age of superannuation on 29.07.1988. His date of birth is 30.07.1936. Therefore on 29.07.2015 he completed 80 years on 29.07.2016. According to the petitioner, he would be entitled to the first of scale of benefit as per Sec. 17 B w.e.f. 30.07.2015 when he stepped into his 80th year. On the other hand, stand of the respondents is that benefit of the first scale under Section 17B would be available to the petitioner, on his completion of eightieth year i.e, from 30.07.2016. This is the bone of contention which the DB is called upon to answer in the proceeding.

Therefore, the question for consideration was whether in the facts and circumstances of the case, petitioner would be entitled to the additional quantum of pension 20% of the basic pension from 30.07.2015 or from 30.07.2016 as per the first scale provided under section 17-B of the High Court Judges (Salaries and Conditions of Service) Act 1954 as amended. To answer this question, it is necessary to examine the meaning of expression "from 80 years". Their Lordships referred to Collins Dictionary; the word "from" has been defined to mean indicating the point of departure, source, distance, change of state. Black's Law Dictionary, 6th edition "from" has been defined to mean a starting point of motion, noting the point of departure, origin, withdrawal etc. However, it had been explained that the word "from" does not have absolute or intention with which the word is used.

The court observed that the petitioner is right when he says that Sec. 17-B was inserted in the parent Act in the year 2009 to provide some succor to the aging retired judges. Long back when Winston Churchill had commented on the need for decent pension to retired judges, which is to the following effect:

"The services rendered by Judges demand the highest qualities of learning, training, and character. These qualities are not to be measured in terms of Pounds, Shillings, and pennies according to the quantity of work done after rendering service to the nation, it is the duty of the State to ensure that a retired Judge who has entered autumn of his life is adequately looked after. A retired Judge at the fag end of his life has peculiar

problems on account of his advanced years of failing health."

It is cater to such a situation, the Parliament, in its wisdom, amended the Act in the year 2009 by inserting Section 17-B entitling every retired judge to additional quantum of family pension in the scale mentioned.

Justice G.P. Singh in his seminal work - Principles of Statutory Interpretation - dealt with the subject purposive construction of statutes. According to him when two words are capable of bearing two or more constructions the most firmly established rule for construction of such words of all statutes is the rule laid down in Heydon's case. This rule which is known as "purposive construction" or "mischief rule" requires consideration of four matters which while construing the Act----

- (i). what was the law before making of the Act;
- (ii). what was the mischief or defect which the law did not provide;
- (iii). what is the remedy that the Act provided;
- (iv). what is the reason of the remedy the Act has provided;

The rule then directs that courts must adopt the construction which shall suppress the mischief and advance the remedy.

In seeking interpretations courts would adopt that which is just, reasonable, and sensible. A construction that results in hardship, serious inconvenience, injustice, absurdity, or anomaly or which leads to inconvenience and uncertainty has to be avoided.

The court cited extensively the case law on the subject and explained purposive interpretation. The court heavily relied on Shivabasavagowda Ayyangowda Vs. The Accountant General (A & E) Principal Accountant decided on 03.09.2014. The decision of Karnataka High Court is logical outcome on the lines of reasoning adopted by the Gauhati High Court.

Consequently, the writ Petition was allowed On 15.03.2018. SLP No. 18133 of 2019 against the
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OSTEOPOROSIS -Part IV (POROUS BONES AND JOINTS)

Dr. N.V. Jayanth Babu

TREATMENT FOR OSTEOPOROSIS IN ALLOPATHY (Contd..)

The latest Drug approved by USFDA is Romosozumab (Human Monoclonal anti bodies -sold under the brand names – Evenity, AMG 785, romosozumab-aqqg) is Injected once in a month for an year, in addition to other medications being given for osteoporosis, to prevent further loss of bone. The results are encouraging but the side effects are cardio vascular issues, stroke and other problems.

TREATMENT FOR OSTEOPOROSIS IN HOMEOPATHY

Primary remedies available basing on symptoms in Homeopathy are:

1. SILICEA, 2. SYMPHATUM, 3. CALCARIA CARBONICA, 4. CALCARIA PHOSPHORICA 5. PHOSPHORUS, 6. CALCARIA LODATA, 7. ASAFOETIDA, 8. MEZEREUM, 9. RUTA GRAVEOLENS 10. SILICEA TERRA and other drugs are being used for addressing osteoporosis successfully.

TREATMENT FOR OSTEOPOROSIS IN AYURVEDA SYSTEM

LAKSHADI GUGGULU; CORAL CALCIUM COMPLEX; BONE SUPPORT TABLTS; ARJUNA CAPSULES; RED SAGE; RED CLOVER; HORSETAIL; THYME; TURMERIC; TRIPHALA CHURNA etc., are given.

Elimination of harmful wastes, toxins, free radicals, nitrogenous wastes, crystals of uric acid from the body and giving-up the habits / causative factors responsible for osteoporosis are taken care of in this system.

ETHNO-BOTANICAL TREATMENTS FOR CURING OSTEOPOROSIS

Tribal doctors and other native doctors living in the villages located in fringes of forest areas are well versed with the wonderful therapeutical properties of several

plants and herbs naturally available to them. When compared to modern medicine and other medicinal practices, the ethno-botanical medicinal practices in vogue are effective, cost effective and are safe without any side effects. 25 % of the Allopathic drugs, that being produced from all pharmaceutical companies in the world, are derived from plants and herbs only. In Homeopathy more than 60 percent of the drugs are being derived from Plants only.

In this article, for curing osteoporosis, different ethno-botanical and folk medicinal treatments being followed are furnished, comprising of 22 formulae using 35 medicinal plant species. You may choose and try with any one of the convenient formula using the easily available plants for your benefit. For example the formulae shown against the sl. nos 1 to 9; sl. nos 30 to 35 and 10 to 12 can be easily prepared and used by anybody having low bone density, as well, the people suffering from stage I to stage 3 osteoporosis.

1. *Withania somnifera* (Solanaceae - Aswagandha)-3 gms roots/ tubers powder; *Asparagus racemosus* (Liliaceae- Satavari, Pilli tegalu) -3gms roots/ tubers powder; *Tinospora cordifolia* (Menispermaceae -Tippateega) -3 gms- stem powder - The powders of these three species are mixed in cow milk along with 2 grams turmeric powder and 1 gram of pepper powder and given daily for 40 days.
2. *Aegle marmelos* (Rutaceae- Maaredu) - Fruit pulp mixed with a pinch of pepper powder is to be taken orally @ 1 fruit per day throughout the season.
3. *Anona squamosa* (Anonaceae - Seethaphal) – Fruit pulp and Bark powder -3gms- Fruit pulp

is consumed orally every day throughout the season; In other seasons bark powder decoction is to be taken orally for 20 days.

4. *Anona reticulata* (Anonaceae -Raamaphal)- Fruit pulp is consumed orally every day throughout the season.
5. *Artocarpus heterophyllus* (Moraceae- Panasa) - Fruit pulp is consumed orally every day throughout the season.
6. *Ziziphus mauritiana* (Rhamnaceae -Regu) - Fruits pulp is to be consumed orally throughout the season.
7. *Syzizium cumuni* (Myrtaceae- Neredu) - Fruits & Stem bark powder (5gms)- Fruits are to be consumed every day throughout the season. Stem bark decoction is given orally every day for 40 days.
8. *Ficus benghalensis* (Moraceae- Marri) – 1 kg of ripen fruits; *Ficus religiosa* (Moraceae- Raavi) -1 kg of ripen fruits; and *Ficus racemosa*. (Moraceae- Medi) -1 kg of ripen fruits -In the fruiting season fruits are to be collected separately from these 3 species, cleaned properly and pounded separately dried under sun under hygienic conditions. After the moisture is completely lost, they should be made into fine powders separately and to be mixed thoroughly by adding the 500 grams of powdered organic jaggery / jaggery crystal / Patikabellam. 10 grams this powder mix is to be mixed in hot cow milk or water and taken orally in the morning and evening daily for 3 months. THIS IS THE BEST, COST EFFECTIVE, MEDICINE THAT CURES OSTEOPOROSIS, AND PAIN IN ALL JOINTS. This regularises the effective functioning of all endocrinal glands in the body, including pancreas for curing diabetes. So many other diseases are also cured by this including darkening of face.
9. *Terminalia chebula* (Combretaceae-Karaka)- Dry fruit pulp powder; *Terminalia bellarica* (Combretaceae-Taani) Dry fruit pulp powder; *Terminalia arjuna* (Combretaceae -Tella Maddi)- Stem bark powder; *Phyllanthus emblica* (Euphorbiaceae – Usiri) Dry fruit pulp powder ; *Curculigo orchioides* (Amaryllidaceae -Nelataadi / kaala musli) – root stock dried powder; *Coriandrum sativum*. (Apiaceae-Dhaniyalu)-Seed powder - Decoction is prepared with two grams each of these 5 plants ingredients and consumed orally in two split doses by MALE Patients of osteoporosis, for a period of 40 days. (Note: FEMALE Patients are given the same decoction without the powder of *Curculigo orchioides*, by adding 2 grams Turmeric powder).
10. *Cannabis sativa* -(Cannabinaceae- Ganjaya aku) – One gram leaf is to be placed in 3 fresh *Piper betle* (Piperaceae- Tamalapaku) by adding 2 grams of nut meg (*Myristica fragrans*) and a pinch of shell lime paste and is given to the patient every day in the night before bed time for a month for strong bones.
11. *Boswellia serrata* (Burseraceae - Anduga) -One gram gum: Commifera mukul (Burseraceae-Guggulu)- One gram gum -both are soaked in 50 ml. water overnight and to be mixed with 6 gms Aloe vera leaf gel and one gram rhizome paste of *Alpinia galanga* (Zingiberaceae-Dumparastram) and given orally every day for a month.
12. *Sesamum indicum* (Pedaliaceae -nuvvulu/Tila)- 20 grams seed is to be fried adequately, in a pan, without oil, made into powder, mixed in hot milk, with 5 grams of organic jaggery and to be taken orally as a beverage every day for 40 days.
13. *Solanum nigrum* (Solanaceae -Kaamanchi)- 10 ml of leaves juice is diluted in 30 ml. of water and given orally every day in the morning for 40 days for correcting hormonal imbalance in osteoporosis.
14. *Lawsonia inermis* (Lythraceae -Gorinta)- 5 ml of leaves juice is diluted in 30 ml. of water and given orally for 40 days for osteoporosis.

15. *Bacopa monneri* (Scrophulariaceae -Jalabrahmi)- 10 ml of leaves juice is diluted in 30 ml. of water and given orally for 40 days.
16. *Litsia glutinosa* (Linaceae -Naramamidi)- Decoction is prepared by mixing 5 grams of stem bark powder in 60 ml. of water and given orally for 40 days for osteoporosis.
17. *Trigonella foenum-graecum* (Fabaceae-Menthikura) - 10 ml. juice is extracted from the fresh green leaves and given orally early in the morning in empty stomach for 40 days.
18. *Mentha spicata* (Lamiaceae -Pudina)- 10 ml. juice is extracted from the fresh green leaves and given orally early in the morning in empty stomach for 40 days.
19. *Coriandrum sativum* (Apiaceae -Kothimeera) – 30 ml. juice is extracted from the fresh green leaves and given orally early in the morning in empty stomach for 40 days.
20. *Moringa oleifera* (Moringaceae – Munaga) – 20 ml. juice is extracted from the fresh green leaves and consumed early in the morning in empty stomach for 40 days.
21. *Trianthema portulacastrum* (Aizoaceae -Tella Galijeru) -20 ml. juice is extracted from the fresh green leaves and consumed early in the morning in empty stomach for 40 days
22. *Cissus quadrangularis* (Vitaceae-Nalleru)- Epidermis of the tender stem is to be removed and inner fleshy portion weighing about 50 grams is to be made into chutney and eaten daily for 40 days.

NB: Please refer to the earlier articles of the author published in Vanapremi for -

1. Plants that are used for oral administration that act as purgatives.
2. Plants that strengthen kidneys and help in excretion of nitrogenous waste materials, unwanted salts, and free radicals generated in arthritis patients.
3. Plants used for boosting immunity, preventing and curing Osteoporosis effectively.
4. Special diet being prescribed by the local Village Vidyas for strong & healthy bones, development of Synovial Fluid, and cartilage in the bone joints.

(Concluded.)

(The writer is Retd. Divisional Forest Officer and can be contacted over his mobile +91 94402 66618 and email: nagireddy. jayanthbabu@gmail.com)

It's what you do with the pieces that break that will make you.

- Darryle Pollack

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judgment was considered by the Bench comprising Their Lordships the Hon'ble Chief Justice, Mr. Justice Deepak Gupta and Mr. Justice Anirudha Bose at the Supreme Court of India and the SLP was dismissed on 08.07.2019.

(Source: Online)

Note: On 30 Nov. 2021, the Government of India in Lok

Sabha introduced a Bill which seeks to bring clarity on Supreme Court and High Court judges are entitled to additional quantum of pension on attaining a certain age. The Law Ministry proposes to amend the High Court Judges Salaries and Conditions of Service and the Supreme Court Conditions of Service Act.

Presentation of Sri. KVS Babu Memorial Gold Medals-2022

Sri. K.V.S. Babu Memorial Gold Medals-2022 have been presented to Sri S. Chalapathi Rao, Forest Range Officer, Gangaram Range of Mahabubabad Dist. of Telangana State and Sri T. Sai Krishna, Bungalow Watcher and in-charge Forest Beat Officer of Sanipaya Beat and Range of Thirupathi Wildlife Management Circle of Andhra Pradesh for the meritorious service rendered in the Forest Department towards Forest Protection. The Gold Medals and a cash reward of Rs. 15,000/- each has been presented to the awardees in a ceremony held on 15.08.2022 at Telangana State

Forest Academy, Dulapally, Hyderabad.

The Awards are being presented every year in memory of Late (Sri) Kotha Vijaya Saradhi Babu, IFS (Rtd), Ex-Principal Chief Conservator of Forests and Ex-Officio Secretary (Forests) to the Govt. of combined Andhra Pradesh during 1986-89. The Awards are instituted and sponsored by Smt. K. Phani Prasoonamba, wife of Sri KVS Babu and given away for the field staff of the Forest Department, who rendered meritorious service for the protection of forests and wildlife.



Awardees Sri T. Sai Krishna (Extreme left) and Sri S. Chalapathi Rao (extreme right) pose with Sri P.V. Raja Rao, IFS, APCCF & Director of TS Forest Academy and Sri K. Buchi Ram Reddy, IFS (Retd) and the family members of Late Sri KVS Babu.

Sri S. Chalapathi Rao, Forest Range Officer, has been awarded the Gold Medal for retrieving encroached forest land, raising plantations, and taking up various soil and moisture conservation works on such lands, braving many odds, even assaults. Sri T. Sai Krishna

has been presented the Gold Medal and cash reward for effectively controlling inter-state smuggling of Red Sanders and seizing vehicles involved in such offences, despite prevailing hostile conditions.

Speaking on the occasion, Sri P.V. Rajarao, IFS, Addl. Principal Chief Conservator of Forests and Director of TS Forest Academy, who participated as Chief Guest in the ceremony, while recollecting his memories with Sri K.V.S. Babu, said that Sri Babu used to respect all the Officers without showing any discrimination irrespective of their rank in the department and never hurt anyone. He lauded the efforts of Sri Chalapathi Rao and Sri Sai Krishna in protecting and developing forests and asking the Officer Trainees to emulate them. Nonagenarian Sri K Buchiram Raddy, IFS (Rtd.), who also took part in the occasion, said that Forestry is a multidisciplinary subject, which is like an ocean and his learning of forestry was not yet over, though he started learning it more than six decades ago, from the year 1954. He further said that Sri K.V.S. Babu encouraged and inspired him while in service. Mrs T. Priyanka, the granddaughter of Sri K.V.S. Babu, presented the awards to the recipients. Sri Sriram Adithya also participated in the ceremony.

During his award acceptance speech, Sri Chalapathi Rao said he continued retrieving the encroached forest lands despite facing hostile conditions and having been assaulted twice in the field. He further said that the help and cooperation of the higher officials of the

department, field staff, the Division Staff and Revenue, Police authorities, the support of the Dist. Administration was instrumental in retrieving the encroached forest lands of about 2,500 Ha. and in taking up the forest protection and development works. He also thanked the authorities for choosing him for the prestigious award.

In his speech, Sri T. Sai Krishna, in-charge Forest Beat Officer, said that he controlled the Red Sanders smuggling by the notorious inter-state smugglers from the remote forest areas. He also thanked authorities for recognizing his efforts and bestowing the award on him.

Sri Ch. Ganga Reddy, Sri V. Anjaneyulu, Sri V. Rama Mohan, Smt S.A. Nagini Banu, Smt N.R. Sangeetha, Deputy Directors; Sri M. Vamshi Krishna, Sri Y. Subhash Chandra Yadav, Smt P. Sunitha, Smt K. Shiva Jyothi, Sri M. Ram Mohan, Asst. Directors; Smt. Uma Rani, Dy. Range Officer; Sri. Praveen Kumar, Forest Section Officer, Forest Range Officer Trainees, Section Officer Trainees, Beat Officer Trainees and other staff attended the ceremony.

- M. Ram Mohan, Asst. Director.

In the forest, there was a crooked tree and a straight tree. Every day, the straight tree would say to the crooked tree, "Look at me...I'm tall, and I'm straight, and I'm handsome. Look at you...you're all crooked and bent over. No one wants to look at you." And they grew up in that forest together. And then one day the loggers came, and they saw the crooked tree and the straight tree, and they said, "Just cut the straight trees and leave the rest." So the loggers turned all the straight trees into lumber and toothpicks and paper. And the crooked tree is still there, growing stronger and stranger every day."

- Tom Waits

“Vrukshabandhan” in Jagityal District

To commemorate 75 years of independence ‘Azadi ka Amrit Mahotsav’ is celebrated all over the country with significant involvement of people and with excitement. On this occasion, various programmes are organised, and glorious tributes are paid to the freedom fighters. As a part of the celebrations, the “Vrukshabandhan” programme was organised by the District Forest Officer, Jagityal district. On 12th August 2022 in Laxmidevipalli Reserved Forest, Sarangapur Mandal, with great enthusiasm and fervour. The function was attended by the local MLA, Dr Sanjay Kumar, Chairperson, Zilla Praja Parishad Smt Daava Vasanta, Collector and District Magistrate Sri. G. Ravi, IAS, Superintendent of Police Smt. Sindhu Sharma, IPS, District Forest Officer, Sri B. Venkateswar Rao and officers of various departments in the district, local public representatives, officers and staff of Forest Dept., and local people.

Explaining the salient features of this unique programme, Sri B. Venkateswar Rao District Forest Officer quoted the great slogan from scriptures “Vruksho Rakshati Rakshitaha”, meaning one who saves trees is saved by trees. Trees provide various benefits, including oxygen we breath, affect rainfall patterns and give us

food, timber, fuel, fodder etc. Indiscriminate cutting of trees and damaging the forest ecosystems due to population explosion and industrialisation lead to drastic climate change and global warming, affecting the very survival of mankind on this planet. He further emphasised that no trees and no forests mean no

life on earth. Keeping this in view, the government of Telangana has taken up an ambitious programme of massive tree planting across the state under the scheme *Haritaharam*. In a short span of eight years, 2400 million trees were planted all over the state, not only in designated forest areas and government lands but also in private lands and homesteads. In Jagityal District alone, 73 million trees were planted. He further stated that forests should not be treated as an economically valuable resource but as a treasure house of biodiversity and as a source of intangible benefits to mankind and should be protected at any



B. Venkateswar Rao
District Forest Officer



cost making the trees planted outside forests meet the daily requirement for the burgeoning human population.

The main aim of this unique programme of *Vrukshabandhan* is to emphasise that planting and protecting the trees is similar to celebrating the traditional festival *Rakshabandhan* wherein the sister ties a 'Rakhee' (thread) on her brother's wrist and prays for his long and prosperous life. In return, the brother pledges to protect his sister's honour and dignity and presents a gift as a token of his love to his sister. One should shower the same affection and love on the trees, giving us many benefits. This sacred programme of *Vrukshabandhan* was first initiated in adjacent Chhattisgarh state by one Ms Sunita Yadav, and it has been going on there for some time. This spirit is now emulated in Telangana state, with Jagtial district being the first to conduct such a programme in a reserved forest area. Dignitaries and others include local people who attended the programme, tied Rakhee to the fully

grown trees in the Reserved Forest and pledged that they would strive to protect the trees.

Hon'ble MLA Dr Sanjay Kumar lauded the programme, thanked the District Forest Officer for involving him in the programme and also stated that we all should plant and protect trees, which in turn protect us. Chairperson, Zilla Praja Parishad Smt Daava Vasanta appreciated the programme and emphasised that it should be extended to the entire state and make it a mass movement. The District Collector exhorted that local people and school children should be involved in the programmes to make them realise their duty of planting and protecting trees. The Superintendent of Police reminded that as trees provide us with so many benefits, it is the duty of every citizen to love and protect them. The programme was attended by the representatives of print and electronic media who made comprehensive coverage in the media, making people aware of this unique programme and appreciating such a fantastic initiative.

(More photos on centre colour page)

WELCOME TO WRITERS

*"If you would not be forgotten, as soon as you are dead or rotten,
either write things worth reading or do something worth writing."*

- Benjamin Franklin.

Please note that there are a lot of excellent, published authors in the world that did not start writing until they retired. But regardless of your age, you may have a great narrative. Some people write for the sheer joy of writing, and most just post the work online for the world to enjoy. You may be one among them; please check.

You may be a professional with vast experience in a particular field but have a good flair in an unconnected area- you are welcome to share your knowledge with the retired, working and the public as well. You are the one we need.

If you are not happy with the articles (content-wise or standard-wise) being published in Vana Premi month after month, just scribble your heart content to a good article and mail it to me preferably by the 5th of every month no later than the 10th -please note. You can add good photographs and drawings wherever you feel necessary.

Though all matters related to Forestry & wildlife, and Environment are generally preferred: seasonal articles, travel and vacation articles: health-related articles, personal grooming and professional articles dealing with senior citizens, home and family themes, puzzles, cartoons, trivia, jokes, quotes related to Forestry and services are not taboo and will be considered basing on the available space. Please leave the controversial topics on religion, politics, and personal defamatory criticism to the mainstream media.

EDITOR, Vana Premi. (Email: thayyab@gmail.com)



My visit to the land of 'Kalivi Kodi'

Jerdon's Courser (*Rhinoptilus bitorquatus*)

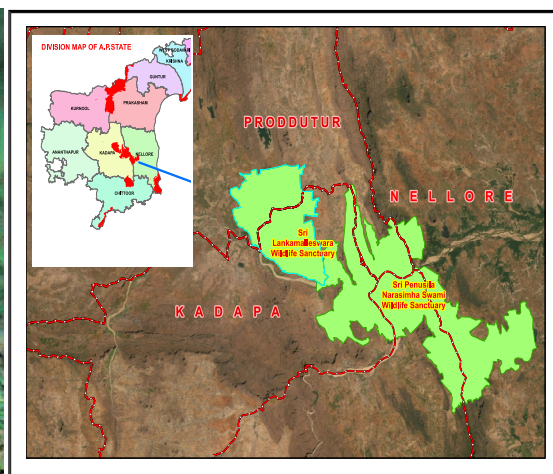
Vurla Rajendra, M.Sc (Tech)

The mysterious blue planet in the solar system is a celestial body which unfolds the origin and existence of flora and fauna in a chronological dating since 4.6 billion years. The evolution of first bird was appeared in Mesozoic era of Jurassic period from 252 to 66 million years ago. The number of bird species are around 18,000 in the entire world. The Indian state of Andhra Pradesh has 557 bird species and Telangana has 497 bird species. The rose ringed parakeet is recognized as our state bird and Indian Roller, or Jay (Pala Pitta) has been announced as Telangana's State bird. According to the Hindu mythology, the bird "Garuda" is said to be the mount of God Vishnu. In the Rigveda the sun is compared to a bird in its flight across the sky, and an eagle carries the ambrosial soma plant from heaven to earth. The Winged beauties are a group of warm-blooded vertebrates constituting the class Aves, phylum Chordata with a high metabolic rate and consist of a four-chambered heart, and paired lungs which contain static structures with surfaces for gas exchange and connected air sacs with a lightweight but strong skeleton. Extant birds belong to the subclass Neornithes, living worldwide and ranging in size from

the 5 cm bee hummingbird to the 2.75 m ostrich.

The fossil record indicates that birds emerged within the theropod dinosaurs during the Jurassic period, around 150 million years ago. Most researchers agree that modern-day birds are the only living members of the Dinosauria clade. The most recent species without wings was the moa, which is generally considered to have become extinct in the 16th century. Flightless birds include ratites, penguins, and diverse endemic island species. Some species of birds, particularly penguins and members of the Anatidae family are adapted to swim. Moreover, Hummingbirds are the only birds that can fly backwards. "Jerdon's Courser" (*Rhinoptilus bitorquatus*) is the nocturnal cursorial bird believed to be extinct endemic species in Andhra Pradesh State until it's rediscovered in 1986 near Reddipalli Village in Kadapa District. The rediscovered site was designated as the Sri Lankamalleswara Wildlife Sanctuary (SLWLS).

In the reminiscence, that was the midsummer in 2002, I was allotted to Regional Geomatics Centre, Kurnool as a Project Scientist to conduct DGPS Survey with



backpack Trimble TDC1 to capture the locations of Rock Fill Dams (RFD), Check Dams (CD), Percolation Tanks, Continuous Contour Trenches (CCT) and Peripheral Polygon Trenches (PPT) under the schemes of Soil and Moisture Conservation (SMC) and Water Harvesting Structures (WHS) in Kurnool, Kadapa and Proddatur Divisions. When I was working in Sidhout Range of Kadapa Division, we had to observe the CCTs and some Check Dams atop the Rollabodu hill in Lankamala RF of Rollabodu Beat near "Panchalingala" temple which is situated 10 km away from the Sidhout Range Office. Really, it was an adventurous trekking with 10 member's crew includes field Staff in forest department, Nagaiah experienced usher in this jungle and my university friend Mr.P.J.B Reddy who escorted with me.

While ascending this hill, we crossed sudden steep, highly undulated and rugged trails, and eroded stones rolling under the feet at high altitudes. Surprisingly, when we reached the top of the hill it's a vast area of plain land with dense forest patches which comprises the lush green locations; major portion consists of bamboo trees with extensive stretches of meadows, deep gorges, steep slopes, and another side with seepages & babbling brooks amidst the chirping and twittering birds. When we were observing the CCT Structures suddenly it was started drizzling and we were lucky enough to be witnessed the pug marks of Leopard and its cubs." *Bungalow Baavi* is the wonderful spot on this hill and it's meant for sojourn for Forest officials as a base camp to control the bamboo smugglers who used to transport the bamboo illegally by donkeys and Oxen. while we were having lunch on the rocky patches adjacent to "Chakirevu Kona" at an elevation of 2000 feet, one of the forest officers started explaining about the existence of highly endangered species named "Jerdon's Courser" (*Rhinoptilus bitorquatus*) Bird locally called it as "Kalivi Kodi" which was discovered for the first time by surgeon-naturalist Thomas C. Jerdon in 1848 and eventually it was christened after his name. Jerdon's Courser is the world's rarest bird found only in Sri Lankamalleswara Wildlife Sanctuary (SLWLS) in Kadapa District and Sri Penusula Narasimha Wildlife



Dr. Salim Ali, with Bharath Bhushan and Aitanna at the site

Sanctuary (SPNWLS) which spreads from Kadapa to Nellore District.

As a matter of fact, Sri Lankamalleswara Wildlife Sanctuary (SLWLS) is one and only the amazing abode in the world which provides feasible habitat for the survival of critically endangered bird Jerdon's Courser. When it was rediscovered in January 1986 by the researcher Mr. Bharath Bhushan with the help of Aitanna who was the huntsman near *Reddipally* Village in Cuddapah district, there was a curiosity prevailed in amateur Bird watchers. The research has been conducted by Bombay Natural History Society (BNHS) with which Dr. Salim Ali was so closely associated, along with Royal Society for the Protection of Birds (RSPB) and the universities of Reading and Cambridge supported by the Darwin Initiative and the Andhra Pradesh Forest Department (APFD) since 2000.

The doyen of Indian Ornithology Dr. Salim Ali who called at its habitat like thickets, bushes, hedges, and shrubbery in Reddipally area of Cuddapah district and met the bird researcher Mr. Bharath Bhushan and Mr. Aitanna, Forest Guard (APFD) who was the instrumental in rediscovering the Jerdon's Courser. Subsequently in 2002, I met Mr.Aitanna, ABO who accompanied with me when i was conducting DGPS Survey in Rollabodu beat and had a chance to know his experiences with "Kalivi Kodi" and also he explained his indefatigable efforts in catching that precious bird

and how he was turned from huntsman to Assistant Beat Officer (ABO) in A.P. Forest Department." The then omniscient Amir Khusro (1253-1325 AD) was the spiritual disciple of Sufi saint Hazrat Nizamuddin Auliya, was the renowned Indo-Persian Sufi singer, prominent poet, mesmerizing musician and a magnificent scholar in South Asia during 14th century who was called as "father of Qawwali" and who introduced Ghazal style of song into India and invented *Sitar* and *Tabla* lived under the Delhi Sultanate. Amir Khusro often described his poems as "pearls" spilling from his lips and – invoking the bird that symbolized eloquence in the Indo-Persian tradition – referred to himself as the "Parrot of India". The pre-eminent and legendary ornithologist and Naturalist of India Dr Salim Ali famously known as

"Birdman of India" was the first Indian to systematically study ecology and the birds of the Indian subcontinent. The Government of India honored him with a Padma Bhushan in 1958 and the *Padma Vibushan* in 1976 for his outstanding research work on birds." The *Fall of a Sparrow* is the famous autobiography of Dr Salim Ali which reveals his exciting experiences and his unusual love on birds!

"Bird watching" is a recreational activity to the birders and sometimes the act of mummuration of huge flocks indulge in mass aerial stunt where thousands of birds swoop and dive intricately coordinated patterns through the sky in unison will definitely make our hearts lighter and transmigrates our souls into the Cirrocumulus Clouds!

(The author is currently working as Project Scientist in GIS Cell in the O/o PCCF, Andhra Pradesh and can be reached over mobile: +91 9550373327 and Email: rajendravurla@gmail.com)



Birthday Greetings

We wish the following born on the dates mentioned

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2.	A. Raja Reddy	13-09-1926	2.	B. Srinivas	20-09-1962
3.	J.V. Subba Rao	13-09-1934	3.	Laxman Ranjeet Nayak	25-09-1990
4.	Narpat Singh	15-09-1952	4.	Dr. Rajendra Prasad Khajuria	05-10-1968
5.	V. Kishan Reddy	20-09-1941	5.	A. Sreenivasulu	11-09-1967
6.	G. Sagar	23-09-1952	6.	M. Samuel	12-09-1978
7.	V.V. Hari Prasad	25-09-1953	7.	N. Rama Chandra Rao	18-09-1984
8.	K. Someswara Rao	26-09-1948	8.	S. Satyanarayana	04-10-1967
9.	P. S. Rao	28-09-1955			
10.	S.N. Jadhav	01-10-1955			
11.	A.A. Rama Rao Choudhary	03-10-1952			
12.	K. Purushotham	05-10-1962			

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