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VANA PREMI



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Vol. 21

APRIL - 2020

No. 4



Photo: Imran Khan from Pench

Hair-crested Drongo (Spangled Drongo), *Dicrurus hottentottus*



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- Large grower of about 26,809.00 Ha. of Eucalyptus clonal / seed origin plantations. Bamboo also grown as an important crop over 6,405.00 Ha.
- The TSFDC has also taken up the challenging task of Eco-Tourism development in the State. Already made open to public – Hyderabad Botanical Garden, Pala Pitta Cycling Park near Hi-Tech City, Madhapur, which has received the ISO 9001:2015 certification on 16-10-2019. Effective SMC measures for recharging pond water and improving surface water taken up in association with Smaran NGO. Mahavir Nischal Van Eco-Tourism Centre, Vanasthalipuram, and Mrugavani National Park at Chilkur are attracting increasing number of visitors.
- TSFDC is also developing Urban Parks in Lalgadi Malakpet RF Cluster, Thumukunta RF & Gowdelli PC Kalan & PC Khurd Cluster. Sankalp Taru NGO is collaborating with TSFDC in improving greenery at Gowdelli Park.
- TSFDC has also taken up consultancy work for NTPC and RFCL and successfully raised multiple Row avenue plantation along Rajiv Rahadari highway in peddapally Dist.
- Dhanvanthari herbal garden is revived with support from Deloitte and Technical support of environment forest solutions.

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Date of Publication: 26-03-2020

/Total Pages 60

Editorial

World Autism Awareness Day: World Autism Awareness Day is observed on 2nd April every year, throughout the world and is one of the 4 official health days set up by the United Nations, the other three being 'World Diabetes Day', 'World Mental Health Day' and 'World AIDS Day', encouraging Member countries of the United Nations to take measures to raise awareness about people with Autism Spectrum Disorder, also known as ASD in short. On November 1, 2007, the United Nations called for one day every year to be designated as World Autism Day. On December 18, 2007, the UN General Assembly designated April 2 as World Autism Awareness Day to highlight the need to help improve the quality of life of those with autism so they can lead full and meaningful lives as an integral part of society. Autism awareness day was first observed in the year 2008 and since last 12 years it is observed continuously every year.

Autism is defined as a developmental disorder of variable severity that is characterized by difficulty in social interaction and communication and by restricted or repetitive patterns of thought and behaviour. In simple words a mental condition in which a person finds it difficult to communicate or form relationship with other people. Autism is a neurological disorder affecting the functions of brain. This disorder persists throughout life although symptoms may improve over the time. The exact cause of autism is not yet known, but scientists believe that it may be associated with genetic or environmental factors. Observation of this day aims to put a spotlight on the hurdles that people with autism and others living with autism face every day. As a growing global health issue owing to its increasing exposure in the press and common knowledge, autism is an issue that is only gaining more understanding and World Autism Awareness Day activities are planned every year to further increase and develop world knowledge of children and adults who have autism spectrum disorder.

There is no cure for autism spectrum disorder, but speech and language therapy, occupational therapy, Educational support, and a number of other interventions may help children and parents. The first signs usually appear before a child is three years old. People with autism often find social interaction difficult, have problems with verbal and non-verbal communication, demonstrate restrictive and repetitive behaviour, and have a limited set of interests and activities. However, one can lead a healthy life with this condition if it is identified on time and managed well. Autism affects all races and in all geographic regions and has a large impact on children, their families, communities and societies. The prevalence is currently rising in many countries around the world including India. Caring for and educating children and young people with this condition places challenges on health care, education and training programs. The rate of autism in all regions of the world is high and the lack of understanding has a tremendous impact on the individuals, their families and communities. According to the estimates of the World Health Organization, one out of every 160 children is living with Autism Spectrum Disorder around the world. It is surprising that there aren't enough people who understand this neurodevelopmental condition that impacts such a vast majority of the world.

Every year a theme is chosen and theme of 2018 was 'Empowering women and girls with autism', theme of 2019 was 'Assistive Technologies, Active Participation'. Autism, is a complicated condition that includes problems with communication and behaviour. It can involve a wide range of symptoms and skills. Autism can be a minor problem or a disability that needs full-time care in a special facility. People with autism have trouble with communication. They have trouble understanding what other people think and feel. This makes it hard for them to express themselves, either with words

or through gestures, facial expressions, and touch.

People with autism might have problems with learning. Their skills might develop unevenly. For example, they could have trouble communicating but be unusually good at art, music, math, or memory. Because of this, they might do especially well on tests of analysis or problem-solving.

Symptoms of autism usually appear before a child turns 3. Some people show signs from birth. Common symptoms of autism include a lack of eye contact, a narrow range of interests or intense interest in certain topics, doing something over and over, like repeating words or phrases, rocking back and forth, or flipping a lever, high sensitivity to sounds, touches, smells, or sights that seem ordinary to other people, not looking at or listening to other people, not looking at things when another person points at them, not wanting to be held or cuddled, problems understanding or using speech, gestures, facial expressions, or tone of voice, talking in a sing-song, flat, or robotic voice and trouble adapting to changes in routine.

The exact cause of Autism Spectrum Disease is unknown. The most current research demonstrates that there's no single cause. Some of the suspected risk factors for autism include having an immediate family member with autism, genetic mutations, fragile X syndrome and other genetic disorders, low birth weight, metabolic imbalances, exposure to

heavy metals and environmental toxins and a history of viral infections. Globally, autism is estimated to affect 24.8 million people. It occurs four-to-five times more often in males than females. It is one of the fastest growing developmental disorders in the United States today. Similar to the western world, there has been an increase in the prevalence of autism in India over the years. Once considered rare, the current understanding is that autism is in fact one of the more common developmental disabilities. The following is the number of people having autism in every 10000 persons United States 168, Japan 161, Canada 152, United Kingdom 100, Ireland 100, India 100, Denmark 69, Australia 67, Brazil 27, Portugal 9.2 and Portugal's number is the lowest number in the world. The results of the 2014 survey show a 16 percent increase in the total prevalence of Autism compared with the previous survey, which was conducted in 2012. Autism symptoms typically become clearly evident during early childhood, between 12 and 24 months of age. However, symptoms may also appear earlier or later. There are no "cures" for autism, but therapies and other treatment considerations can help people feel better or alleviate their symptoms.

Vana Premi wishes that no child on this planet should suffer from autism and research should be conducted by Governments of different countries, to find out the cause and treatment of this disorder for those who are already suffering from Autism and prevent further population to get attacked by this disorder. - **QMK.**

Doctors won't make you healthy. Nutritionists won't make you slim. Teachers won't make you smart. Gurus won't make you calm. Mentors won't make you rich. Trainers won't make you fit. Ultimately you have to take responsibility. Save yourself.

(Naval Ravikant)

Letters to the Editor

Dear Sir,

Greetings, Had the copy of "Vana Premi" of March,2020 in time. Happy to enjoy the editorial on 'World Forestry Day' with more inputs on the importance of forests and forestry in postponing the disasters of Global Warming and Climate Change. Congratulations for the wisdom of your pen.

The article on 'Man-animal Conflicts' by Dr Uma Shankar Singh, about the complex problems of wildlife in India ... (2) 'Badrinath-Playground of Gods' by Dr B. Raghatham Rao Desai...the literary descriptions of the landscape of Himalayas geographically and Silviculturally in blend with religion is interesting and worth reading. (3) Fiction: 'The Gods are Watching' by J. V. Sharma is very classic in conjunction with the present disturbing Forest Rights Act of 2006 and it's intricacies against forests and wildlife narrated so beautifully in judicial discourse with analysis of our innumerable laws, individuals rights, lengthy judicial proceedings etc. jokingly by taking the issue to the court of Lords of Nature and to the Gods through a famous Lawyer died suddenly in court assumed to be Ram Jethmalani....is fantastic and unfolds like a drama. Other articles are also good.

Totally an issue to be preserved. Congratulations to all the authors.

Regards

B. M. T. Rajeev,
Bengaluru.

Dear Editor,

Heartfelt greetings!! The punctuality at which the VP reaches everyone here month after month is proverbial and you & your associates deserve kudos! The 3/20 issue is no exception. Your editorial emphasizing that our forests belong not to us but to the next generation, for whom they should be preserved and the articles of a few of your chosen contributors makes me realize that history impacts not just the past but also the future and compels your readers to eschew any resistance they have and accept the sophisticated interpretations offered by you & similar knowledgeable contributors by shedding their obstinate beliefs. Thus, you are perhaps helping about bringing a great transformation among your readers for which you richly deserve to be complemented.

Dr Raghatham Rao Desai

The human body is the best picture of human soul.

(Tony Robbins)

Happiness is the highest form of health.

(Dalai Lama)

**Vana Premi Pays
Rich Homage
To all Those of
this Planet Who
Were Infected With
COVID-19 Virus
and
Lost Their Lives.**

CLOUD FORESTS ARE ON A FAST DECLINE IN INDIA

By

Dr Uma Shanker Singh

The potential global area of cloud forest is about 380 000 km², which is approximately 0.26 per cent of the Earth's land surface. This figure is likely to be an overestimation of the true area of cloud forest, as other forest types are included within the altitudinal ranges used for this analysis. Cloud forest is not distributed equally across the tropical regions. Of the global area of potential cloud forest 25.3 per cent occurs in the Americas, 15.0 per cent in Africa and 59.7 per cent in Asia. One of the most noteworthy results of this analysis is the very large extent of potential cloud forest in Asia, principally in Indonesia and Papua New Guinea. Cloud forest is a rare type of forest, making up only 2.5 per cent of the total area of the world's tropical forests. In the Americas and Africa cloud forest is an even rarer forest habitat, forming 1.2 per cent and 1.4 percent, respectively, of the tropical forests of these regions. Cloud forests are also a scarce habitat amongst all forest types in tropical mountain regions, occupying 8.4 per cent, 10.5 per cent and 14.6 per cent of tropical mountain forest in the Americas, Africa and Asia, respectively. Like cloud forests, tropical dry forests have been identified as a forest type with high levels of species endemism and deforestation rates. A comparison of the areas of these forest types shows that cloud forests are much scarcer than tropical dry forest in the Americas (13.8 per cent of dry forest area) and in Africa (41.4 per cent). In Asia the relatively large area of potential cloud forest is slightly greater in extent (118.6 per cent) than that of tropical dry forests.

CLOUD FORESTS ARE VITAL WATER SOURCES: All mountain forests have an important role in stabilizing water quality and maintaining the natural flow patterns of the streams and rivers originating from them. Tropical montane cloud forests have the unique additional value of capturing water from the condensation from clouds and fog. This 'stripping' of wind-blown fog by the vegetation becomes especially important during the non-rainy season and in areas with low rainfall but frequent cloud. Water originating from cloud forests is also increased because water loss from vegetation wetted by rain or fog is reduced. This results in stream flows from cloud forest areas that are greater and more dependable in dry periods. Under humid conditions the amount of water directly intercepted by the vegetation of cloud forests can be 15-20 per cent of the amount of direct rainfall, and can reach 50-60 per cent under more exposed conditions. These values tend to increase in cloud forests at higher altitudes. In areas with lower rainfall, or during extended dry periods, these percentages can be higher still and equivalent to 700-1 000 mm of rainfall per year (Bruijnzeel and Hamilton, 2000; Bruijnzeel, 2000). A major element of the hydrology and ecology of cloud forests is the abundance of epiphytic plants that is plants such as mosses, ferns and bromeliads that grow on the trunks and branches of trees. Up to a quarter of all cloud forest plant species may be epiphytes (Foster, 2001). The epiphytes capture water directly from the fogs and clouds and provide a variety of microhabitats for invertebrates, amphibians and their predators (Benzing1998). Water storage in

epiphytes has been calculated as ranging from 3000 liters/ha (Richardson et al., 2000) up to 50 000 liters/ha (Sugden, 1981). Up to half the total input of nitrates and other ions and nutrients to the forest can come from water stripped from clouds by epiphytes (Benzing, 1998). The year-round and unpolluted water from cloud forests is a vital resource in many regions. For example, the cloud forests in La Tigra National Park in Honduras provide over 40 per cent of the water supply for the 850 000 people in the capital city, Tegucigalpa. Other capitals where cloud forests augment water supplies are Quito, Ecuador, with 1.3 million people, and Mexico City with its 20 million people. In the dry season 100 per cent of the water used by Dar es Salaam, Tanzania, for drinking supplies and hydroelectricity generation originates in the cloud forests of the Uluguru Mountains. In Guatemala the Sierra de las Minas Biosphere Reserve protects 60 per cent of the country's remaining cloud forest habitat. More than 60 permanent rivers drain the reserve, making it the country's biggest single water resource. This is especially significant for the Motagua Valley to the southeast of the Sierra, which is a rain-shadow desert and heavily dependent on irrigation. Similarly, the montane forests of Mount Kenyaguarantee the dry-season river flows to the semi-arid lowlands, with the headwaters of the Tana River supplying water to over 5 million people (Lambrechts, 2000). The Mount Kenya catchment also provides 97 per cent of Kenya's hydropower. The water from the river systems originating from this mountain is used in several lowland urban centers. In addition, it supplies large-scale horticulture for international markets, agro-pastoral smallholders, large-scale ranches, pastoralists and tourism and wildlife populations. These diverse users are increasingly in conflict over the use of water resources, with 60-95

per cent of available river water in the Ewaso Ng'iro Basin abstracted during the dry season and the river drying up completely in many years (Wiesmann et al., 2000).

CLOUD FORESTS ARE CONCENTRATIONS OF BIODIVERSITY:

Cloud forests have very high levels of endemism and are home to many threatened species. On a global scale the importance of cloud forests for biodiversity conservation is demonstrated by the fact that 86 per cent of the cloud forest sites identified in the UNEP-WCMC inventory are found within the Global 200 Priority Forest Eco-regions identified by the World Wide Fund for Nature (WWF). The distribution of cloud forests shows an even closer correlation with the Endemic Bird Areas identified by Bird-Life International. Ten per cent of the world's 2 609 restricted-range bird species (those with a range of less than 50000 km²) are confined to or mainly found in cloud forests, with a further 315 species (12 per cent) found in both cloud forests and other habitats (Long, 1995). An analysis of all 327 threatened bird species of the Americas found that 38 species (11.6 per cent) are cloud forest species. In Mexico cloud forests cover less than 1 per cent of the country but contain about 12 per cent of the country's 3 000 plant species (Rzedowski, 1996). Up to 30 per cent of these are endemic to the country. This has been estimated that the eastern Peruvian Andean forest harbours 14 per cent of Peru's flora in 5 per cent of the country's area (Young and León, 1997). Similarly, Balslev (1988) estimates that half of Ecuador's species occur in the 10 per cent of the country represented by middle-elevation (900-3 000 m) Andean forests, and 39 per cent of these species are endemic to Ecuador, compared with 16 per cent of lowland species. Half the lowland species have a wide distribution, compared with one quarter of the mid-elevation species and only one sixth of the high-altitude species. Gentry (1992) identified the Andean region as 'of exceptional importance as a repository for a disproportionate part of the world's

biodiversity'. This high species richness is due to the much greater endemism in Andean forests than in other parts of the world: 'some plant families seem to have evolved locally endemic species in every patch of isolated Andean forest' (Gentry, 1992). For example, 21 endemic tree species of Magnoliaceae were discovered during the preparation of the Flora de Colombia (Lozano, 1983). A good example is the Centinela ridge in western Ecuador where about 90 species were apparently endemic to a forest area of ca. 20 km². High levels of endemism are also found amongst the vertebrate fauna of Andean cloud forests. In Peru 32 percent of the 272 species of mammals, birds and frog's endemic to the country are restricted to cloud forest (Leo, 1995). Mares (1992) showed that although the eastern Andean montane forests occupy only 3.2 per cent of the continental area, they are the habitat of 63 per cent of its endemic mammals. Fjelds  and Hjarsen (1999) analyzed areas of 'hotspot' richness of highland bird species in the Andes, using the distribution in 15-minute grid cells (ca. 27 x 27 km) of species that are well established above 2 500 m. The areas identified are mainly humid montane forest and the analysis found that all bird species in the tropical Andes can be covered in just 80 grid cells. Amongst these the 50 highest scoring cells would contain 99.1 per cent of all highland birds and 94.9 per cent of all those classified as endangered. Species inventories and analyses of endemism have rarely been undertaken for invertebrates in cloud forests. However, Anderson and Ashe (2000) surveyed 13 cloud forest sites in Honduras for beetles that inhabit leaf litter and found 173 of 293 species (58.7 per cent) of Curculionidae and 126 of 224 species (56.3 per cent) of Staphylinidae were restricted to single sites. One of the consequences of the high levels of endemism in cloud forests is the regular discovery of new species, even for well-known groups such as birds. For example, in the Andes two narrowly endemic bird species were discovered in the 1990s.

The Jocotoco antpitta *Grallaria ridgelyi* was found in about 5 000 ha of cloud forest in Ecuador in 1997 (Krabbe et al., 1999). In 1996 the Scarlet-banded Barbet *Capito wallacei* (O'Neill et al., 2000) was discovered in the cloud forest on one mountain near the headwaters of the Rio Cushabatay, Peru. A new genus of the cow family and two new barking deer species were discovered in the Annamite cloud forests of Laos and Viet Nam in 1996. An important but often overlooked characteristic of cloud forests is that they are the natural habitat of the wild relatives of many crop species. They are therefore important gene pools for the continued improvement of these plants. Debouck and Libreros Ferla (1995) identified 12 crop genera with wild relatives in Neotropical montane forests. These include relatives of the papaya *Carica papaya*, the tomato *Lycopersicon esculentum*, the tree tomato, species of passion fruit, the avocado *Persea Americana*, beans of the genus *Phaseolus*, the blackberry *Rubus* spp., the cucumber *Solanum muricatum* and the potato *Solanum* spp. A wild relative of another crop genus of major economic importance, the peppers *Capsicum* spp., was recently rediscovered in a Guatemalan cloud forest reserve (Bosland and Gonzalez, 2000).

CLOUD FOREST IN INDIA: Cloud forest is an essentially high-elevation tropical forest that receives much of its moisture from direct contact with clouds rather than from rain whereas a rainforest is a tropical forest with an annual rainfall of 100 inches or more with trees forming a canopy. There are numerous numbers of epiphytes (a plant that grows on another plant but it is not a parasitic) on the trees. A cloud forest is a type of rainforest but the altitude is usually much higher, somewhere in the range of 3,000 to 8,000 feet. There are overwhelming numbers of epiphytes among all the larger trees. Tropical montane cloud forests (TMCFs) occur where mountains are frequently enveloped by trade wind derived orographic clouds and mist in combination with convective rainfall. One of the most

important direct impacts of frequent cloud cover is the deposition of cloud droplets through soil and vegetation surfaces (horizontal precipitation) which has immense hydrological importance in the cloud forest ecosystems. One school of thought believes on the basis of data collected from around the world show that horizontal precipitation can account for up to 14–18% and 15–100% of total precipitation during the wet and dry season respectively. A high annual deforestation rate in tropical mountain forests caused by harvesting fuel wood, resource logging and agricultural conversion is increasingly threatening cloud forest worldwide. Cloud forests are also home to many of the endangered species. Therefore, the conversion status of these unique ecosystems is critical and precarious as they are among the most endangered of all forest types. India has only two TCMF mountain regions, which are located in north-eastern Indian states and southern Western Ghats bordering the states of Tamil Nadu and Kerala. Most of the southern Western Ghats seasonal montane cloud forests are located around the cardamom hills which are exposed to trade winds during the monsoon seasons. Among TCMF regions of the world, the Indian TCMFs are the least studied climatologically and explored biological wealth. Of all the types of tropical forest, tropical montane cloud forests are especially vulnerable to climate change. The formation of cloud bank is affected not only by global climate change; there is also evidence that regional and local land-use change can have significant influence. Climatologists found that deforested Caribbean lowlands of Costa Rica remained relatively cloud-free in dry season whilst adjacent forested regions had well-developed cumulus clouds. These forested lowlands are upwind of the Monteverde cloud forests, where reduced cloud cover had already been documented. The difficulty with the state forest departments across the country is that their research bases have been kept at sub-zero level willfully therefore; we don't have

much of database on the cloud forest in our country. We don't have the documented papers on this either from other institutions. A study was carried out on the Western Ghats and found that cloud forest sites (Gavi, Periyar, High wavys and Venniyar), which are characterized by frequent or seasonal cloud cover at the vegetation level, are considered one of the most threatened ecosystems in India and the world. Three out of four montane cloud forest sites studied in the southern Western Ghats had experienced diminishing trends of seasonal average and total rainfall, especially during summer monsoon season. The highest level of reduction for summer monsoon season was observed at Gavi rainforest station (>20 mm/14 years) in Kerala followed by Venniyar (>20 mm/20 years) site in Tamil Nadu. Average annual and total precipitation increased during the study period irrespective of the seasons over Periyar area, and the greatest values were recorded for season 2 (>25 mm/28 years). Positive trends for winter monsoon rainfall has been observed for three stations (Periyar, High wavys and Venniyar) except Gavi, and the trend was positive and significant (90%) for Periyar and High wavys. Increase in summer monsoon rainfall was observed for Periyar site and the trend was found to be significant (95%) (Muthusamy Murugan, 2009). The real problem lies in our inability to carry out the basic research on the biodiversity rich hot spots in the country in general and Western Ghats and North Eastern forests in particular. Global warming with the burgeoning anthropogenic greenhouse gas (GHG) emissions (415 parts per million from 280 ppm CO₂ emissions of pre-industrial era) has altered climate, eroding the ecosystem productivity and sustenance of water, affecting the livelihood of people. The anthropogenic activities such as burning fossil fuel, power generation, agriculture, industry, polluting water bodies and urban activities are responsible for increasing GHG footprint of which 72% constitute CO₂. GHG footprint needs to be in balance with sequestration of carbon to sustain ecosystem

functions. Forests are the major carbon sinks (about 45%) that aid in mitigating global warming. The land-use land-cover (LULC) dynamics are the prime driver of climate change due to the loss of carbon sequestration potential as well as emissions. The Western Ghats are one among 36 global biodiversity hotspots and forests in this region sequester atmospheric carbon, which aid in moderating the global climate and sustaining water to ensure water and food security in the peninsular India. Assessment of LULC dynamics using temporal remote sensing data shows the decline of evergreen forest by 5% with an increase in agriculture, plantations and built-up area. The interior or intact forests have declined by 10%, and they are now confined to protected areas. The simulation of likely changes indicates that the region will have only 10% evergreen cover and 17% agriculture, 40% plantations and 5% built-up. Quantification of carbon reveals that the WG forest ecosystem holds 1.23 M. Gg (million gigagrams or Gt) in vegetation and soils. The annual incremental carbon is about 37,507.3 Gg, (or 37.5 million tons, Mt) and the highest in the forests of Karnataka part of WG. Simulation of the likely changes in carbon content indicates the loss of 0.23 M. Gg (2018–2031) carbon sequestration potential under business as usual scenario. The conservation scenario depicts an increase in carbon sequestration potential of WG forests with the protection. Sequestered carbon in WG is about INR 100 billion (\$1.4 billion) at carbon trading of INR 2142 (\$30) per ton. Large-scale land-cover changes leading to deforestation has contributed to an increase in mean temperature by 0.5° and decline in rainy days, which necessitates evolving prudent landscape management strategies involving all stakeholders for conservation of ecologically fragile WG. This will enhance the ability of forests to sequester atmospheric carbon and climate moderation, with the sustenance of ecosystem goods and services.

DEFORESTATION IN NORTH-EASTERN STATES OF INDIA:

Deforestation is on an increase in the Indian forest and in North-eastern states in particular. The loss of tree cover in north-east India amounts to over 70% of all tree loss in India that occurred between 2001 and 2018. Net loss of tree cover between 2000 and 2018 in India is 16,744 sq. km. Out of this, 12,523 sq. km, a whopping 74.7%, is from the north-eastern states of Assam, Arunachal Pradesh, Meghalaya and others. Data shows that 6,867.57 sq. km of tree cover got eroded in the period between 2013 and 2018 and this is a little less than half of the loss occurred between the periods of 2001-2018. Assam tops the chart for the period between 2001 and 2018 with 2388.46 sq. km tree cover loss, while Mizoram lost maximum trees between 2013 and 2018, amounting to an area of 1392 sq. km. The chart made using the data shows that the tree cover loss almost doubled in the last five years that is 2014 and 2018. Maximum number of deforestations occurred in the top ten states have been given in Table-2. Forests of Northeastern states hold critical importance for the rest of India not only because of the presence of rich biodiversity but because of the fact that the cluster of eight small states contribute about one-fourth to India's forest density. A gradual decline in northeast's forest cover will adversely impact India's target of having 33% of its geographical area covered by forests from the current 24.39%.

Development activities, logging and shifting cultivation are widely recognized as major causes of deforestation in the Northeast. Coal mining, industries and factories like cement plants planned on the hills of Meghalaya are the main reasons for the forest cover loss in Meghalaya. The Northeast is one of the richest biodiversity hotspots in India. The destruction of forests has threatened wildlife. The Northeast is also known for the abundance of water but the destruction of forest has led this

Table-1:
Deforestation In Indian State Inn-E Regions

(Area In Sq.km)

STATE	2004-2009	2009-14	2014-2019
MIZORAM	192.69	278.58	1392.16
MEGHALAYA	210	318.21	962.47
ASSAM	560	662.88	942.06
NAGALAND	372.68	416.47	927.19
MANIPUR	256.24	380.27	886.87
ARUNACHAL PRADESH	520.1	510.6	747.16
TRIPURA	215.46	155.76	369.4
SIKKIM	3.12	2.10	2.00
TOTAL	2,330.29	2,724.87	6,229.31

Source: Global Forest Watch Report 2019

Table-2:
Forest Loss In Between 2001-18 In Top Ten States

(In Sq.km)

STATE	AREA (Area In Sq Km)
MIZORAM	1392.16
MEGHALAYA	962.47
ASSAM	942.06
NAGALAND	927.19
MANIPUR	886.87
ARUNACHAL PRADESH	747.16
ODISHA	396.2
TRIPURA	369.4
KERALA	297.14
KARNATAKA	136.18
TOTAL	7,056.83

Source: Global Forest Watch Report 2019

region witnessing dry spells like the North or central Indian states like Madhya Pradesh or Maharashtra. Temperature in Shillong is increasing gradually. This is mainly due to the loss of forest cover. The region

has lost nearly 25,012 sq. km of forest cover in a decade and this is one of the reasons behind rainfall deficit in the North Eastern states in India. (State of India's environment report 2020)

CONCLUSION: India's Western Ghats, considered one of the richest biodiversity hotspots in the world, has been dubbed a UNESCO World Heritage Site. In total, 39 different sites in the tropical rainforest—home to Asian elephants, Bengal tigers, lion-tailed macaques, and thousands of other species—have made it under the listing. The Western Ghats is home to more than 5,000 flowering plants, 139 mammals, over 500 birds, 288 freshwater fish, and 179 amphibians. New species continue to be found in the region. There are many international reports and some studies which make it clear that conserving and restoring cloud forests is not only a matter of aesthetics or a love of nature, but one of crucial economic importance for millions of people in the developing world. We all know that the ability of cloud forests to strip and retain moisture from cloud and fogs is key to abundant, clean and predictable water supplies in many areas, especially during dry seasons. The cloud forests of La Tigra National Park in Honduras provide over 40 per cent of the water for the 850,000 people living in the capital, Tegucigalpa. Other cities where cloud forests supply significant amounts of water include Quito, Ecuador, Mexico City and Dar es Salaam. All the water used by the Tanzanian capital in the dry season for drinking and powering hydroelectricity originates in the cloud

forests of the Uluguru Mountains. The forests of Mount Kenya guarantee the dry-season river flows to the semi-arid lowlands with the headwaters of the River Tana supplying water to over 5 million people. River systems in the Mount Kenya area also supply other urban centres, Kenya's blossoming international exports of flowers, as well as wildlife and tourist centres. A recent Niti Aayog report states that 24 of India's 29 states will witness a severe water crisis shortly. 21 major cities of the country will soon run out of groundwater. This year, with nearly 50 percent of India grappling with drought-like conditions, the situation has been even grimmer in states that have received rainfall below the long-period average. There are about 17 river basins in Tamil Nadu with Cauvery being the major basin. Water from this basin is shared between Karnataka and Tamil Nadu as it flows from Karnataka and then enters the state. 13 other basins are medium, and 3 are minor river basins. At 75 percent dependability, the annual surface water generated in the state is 692.78 TMC (thousand million cubic feet). Therefore, this water problem in some of the southern and north-eastern states may be adequately handled once our western Ghats and north eastern cloud forest is fully protected.

*A wife asked legal opinion from her lawyer husband
on why wives are supposed to cook food for their
husbands. He said "according to Geneva Convention all
prisoners must be provided with food."*

VALUE OF TREE = VALUE OF OXYGEN GENERATED? A STUDY

By

Dr. K. Tirupataiah

The Context: Two recent incidents in India brought to light the issue of "Value of Tree" as perceived by the state and that of the civil society organizations (CSOs).

The first incident happened in Aarey Milk Colony, the Green Lung of Mumbai where over 2,600 trees were felled, with due permission from Tree Authority, to clear area to build a shed for the upcoming Mumbai Metro Rail Corporation (MMRC). The trees felled were adjoining to the Sanjay Gandhi National Park (SGNP). As per the contention of the petitioners, the area is a "classified forest" and felling trees is illegal. However, the Mumbai High Court refused to stop tree felling on the ground that the area is not a "forest". A Law student Rishav Ranjan filed a Public Interest Litigation in the Apex court. The Supreme Court ordered that no further trees should be felled. However, it did not stop the MMRC from going ahead with the construction of the Shed in the cleared area. Officials of MMRC were heard saying, "we have cleared enough trees for our requirement". The SC's order stopping further felling didn't affect MMRC work.

The second incident occurred in the state of West Bengal. The state government gave permission to fell about 700 trees for construction of five railway over bridges (ROBs). The justification for the ROBs is that about 700 deaths occurred at these five places in the last four years. The Association for Democratic Rights (APDR) filed a petition in the Supreme Court challenging the Calcutta HC decision permitting West Bengal government to fell trees. The Advocate for the state argued, "Human lives are more precious than trees". The court was also informed that more

than five times the number of trees felled are being planted. However, the Bench headed by the Chief Justice of India (CJI) observed, "the state/project proponents undertake afforestation by planting saplings. But most of them die because of neglect". A panel was set up to report on the issue in five weeks.

SC bench queried, "why do authorities, while computing environmental compensation, not take in to account the volume of Oxygen a tree would release in to atmosphere in its life time? It should be considered in determining damage to environment caused by its felling".

The observation made by the SC while being on the side of the environmentalists, raised a very pertinent and fundamental question about what would be the value of a tree and How it should be calculated.

Review of Literature: Economic Value is a measure of benefit provided by a Good or Service to an economic agent. It is different from market price or market value. The value is linked to price through the mechanism of exchange.

T. M. Das, a Biologist from the University of Calcutta provided the first available valuation of a tree in his article published in Indian Biologist, Volume XI, No.1-2, pp 73-79. This calculation was revised in 2012. The intrinsic value of a tree is determined based on environmental benefits and services derived over a period of 50 years. Conventional value of a tree based on biomass, quality of timber or fruits saleable in the market. They hardly make 0.3% of real value of a tree.

In 1981, in the Presidential address in Agricultural Science section of the 68th Indian Science Congress at Varanasi, details of value of tree was elaborately presented.

However, David Bennett, of the Tropical Rain Forest Research, in his article "Valuing a Tree: The Ethics of Environmental Evaluation" opined that whatever valuations are available, they are not exact. There are a lot of assumptions made and the calculations are only crude and rough. He also felt that the value of a tree cannot be reduced to its materials. Value is variable and is based on cost of Oxygen, cost of Energy and other inputs. In 1983 the Films Division of India produced a Documentary on Services of a tree that got First Prize in an International Documentary Film Competition in Spain. In 1991,

Australian Horticulturist Nancy Beckham made a comprehensive review on this issue and published her findings in Indian Biologist in 1992. Concept of Valuation is incorporated in the book of Accountancy. Social Accountancy and Corporate Social Reporting got incentives from this calculation for determining social value of natural resources (Chattopadhyay, 2000).

The Value of a Tree: There are two methods used to calculate the value of a tree. The first one by T. M. Das looks at a bundle of services rendered by a tree. The second method focuses on the value of Oxygen released from a tree.

A. Services Method: T. M. Das, Biologist calculated value of services rendered by a 50 years old tree in its life time as follows:

Value as per 1979 rates US\$	Service
31,250	Value of Oxygen produced
3,000	Conversion to Flesh & Bones
31,250	Controlling Soil erosion & increasing soil fertility
37,500	Water recycling
31,250	Nesting for Birds, Squirrels, etc
62,000	Reducing air pollution
1,96,250	TOTAL
Value in Rs. 15.70 lakhs as per 1979 rates and Rs.1.43 crores at present rates	

The Economics of Ecosystem Services and Biodiversity (TEEB) is a recently introduced tool to calculate economic value of an ecosystem as a whole.

B. Oxygen Value Method: Environment Canada (Canadian National Environment Agency) report calculated that on an average one tree produces 260 pounds of Oxygen per year. Two mature trees produce enough Oxygen for a family of four.

US Forest Service reports that a healthy tree produces 260 pounds of net Oxygen per year. An average person consumes 386 pounds per year.

So, two medium sized trees are estimated to supply Oxygen for one person.

T. M. Das assumed that one gram of Carbon dioxide accumulation releases 2.66 grams of Oxygen. Taking weight of a tree, correction factor for amount of leaf shed, value of Oxygen was arrived. He calculated that each adult inhale 16 kg of air (3.0 kg Oxygen) per day. At \$1.4/kg for 120 crore Indians the cost comes to Rs.75,600 crores.

Delhi Greens in their study done in 2013 estimated that two healthy trees produce enough Oxygen required by one person/year. An average person at

rest requires 7-8 lts. of Oxygen per minute or 11,000 lts. of air per day. At 20% of air breathed as Oxygen, a person requires 550 lts. of pure Oxygen/day. This requirement would be more when the person is at work.

This study was based on the calculation that one portable cylinder of Oxygen of 2.75 lts in Delhi costs Rs.6,500 and one person requires 550 lts of Oxygen per day i.e. Rs.13.00 lakhs and for one-year Rs.47.45 crores. Total cost of the Oxygen produced by two trees is arrived at Rs.47.45 crores and for one tree Rs. 23.73 crore of a tree in a 50- year life.

Conclusion: It is reported that one tree takes with it 10-30 dependent species including plants, animals, insects, etc. Survival ration of a green plant to animal is 99:01 (one body weight of animal requires 99 units of plants). Animal and human population is increasing

at a fast rate but the same is not true in case of plants. In fact, forest area equal to four football fields is being lost to deforestation. It's a losing battle that the environmentalists are waging. The Supreme Court observation on the need for valuing trees is a silver lining that could not only increase awareness on actual value of trees but also go a long way in valuating trees more for their services than for the market value of its saleable produce.

Other services rendered by trees are: fuelwood (40% value of earnings), employment/livelihood (MFP etc), recreation, energy conservation, increased value of house property, fishery revenue (Mangrove forest), medicinal value, social & psychological (less violence). Rio+20 gave focus to the concept of "Green Economy". Hope the initiative taken by the Supreme Court gives more steam to it.

Birthday Greetings

*We wish the following born on the dates mentioned
"A Very Happy Birth Day"*

S.No.	Name of the Member	D.O.B.
	Sarva Sri	
1.	Iqbal Singh	09-04-1953
2.	V.Subba Raghavaiah	10-04-1935
3.	S. Mahadev	10-04-1951
4.	S. Krishnaiah	15-04-1952
5.	J.V.K.T. Prabhakar Rao	15-04-1953
6.	S. Veerabhadram	17-04-1950
7.	S.V. Kumar	21-04-1953
8.	P. Bhushanam	01-05-1949
9.	C. Sammi Reddy	01-05-1951
10.	K. Prabha Prasad	02-05-1946
11.	G. Prabhakar Reddy	02-05-1952
12.	P. Kanaka Ratnam	05-05-1949
13.	G. Satyanarayana	05-05-1950

IN SUA CAUSA: IN THEIR OWN CASE

By

Dr B Raghotham Rao Desai, IFS (R)

Prologue: Memo judex in sua causa — no person should be a judge in their own case — is the first principle of natural justice. For a quarter of a century, the five judge Supreme Court Collegium — headed by the CJI, its remaining membership being confined to their far most senior colleagues, there being no representation from outside the Supreme Court — has stood at the gates of the gates to the higher judiciary. And the Apex Court had ruled in the 1990s that no one can file a first-information report name its judges without first getting permission from the CJI.

Above being the position, seated under the seal of Supreme Court, the republic's highest judge questioned (the motives in April, 2019) of a former Supreme Court employee (who had accused the CJI of sexual harassment), the solicitor general (who brought the matter before the court somehow when case had not been in session) calling her "an unscrupulous lady" and not allowing her lawyer to be present to defend her. The special bench for a special sitting — to deal with a matter of great public importance, touching upon the independence of judiciary, as it was called — (on a Saturday when the court was supposed to be shut) consisted in the said case of CJI himself (trampling upon the first principle of natural justice — becoming the 3rd consecutive CJI to do so), along with two more senior most judges.

Present Position: After the Emergency, marked by rampant executive interference in the composition of courts, the judiciary claimed for itself more and more of the power to select its own. With the collegium system, created in 1993, it achieved unmatched primacy in the process of judicial appointments.

The inseparable irony happens to be that the judiciary, after all the efforts to formally distance itself from the executive after the Emergency, has come full circle to face the same questions over its independence that it back then. With that singular purpose of creating the collegium system stands defeated. The year 2014 heralded tensed days for the Indian judiciary when the newly installed government at the Centre announced its manifesto to set up a National Judicial Commission for the appointment of judges in higher "judiciary", and within months both Houses of Parliament passed the ninety-ninth amendment to the constitution in quick succession, to create NJAC, which was ratified by majority of the State Legislators by the end of that year, and even signed by the President & enshrined in law!

The NJAC, A's envisioned, was to have six members, entrusted with control over appointments to the Supreme Court as well as appointments and transfers in all high courts. Led by the CJI, it was to include second and the third most senior judges of the Supreme Court, the Law Minister, and two 'eminent persons' nominated by a panel of the CJ, the PM, and the leader of the Opposition — one of these persons was to be either a woman or belong to a religious minority, scheduled caste or scheduled tribe. The new body proposed to supplant the collegium system which has fulfilled the same purpose since 1993 — the year I happened to superannuated.

The NJAC hoped to give the executive branch (of government) a direct say in shortlisting candidates (for the higher judiciary) and, in optimistic eyes, could even have led to some transparency. But

the Apex Court's conservative thinking stated to be "in the name of transparency", it can't destroy the institution.

Epilogue: The Law Commission, as far back as sixty years ago, has considered it necessary "to safeguard the independence of the Supreme Court Judges by enacting a law barring further employment except as ad hoc Judges of the Supreme Court". Late Justice VR Krishna Iyer (who erred on the Supreme Court through much of the turbulent 1970 s) held that the collegium system had "aggravated the malady of favouritism, arbitrariness, dilators ness and injustice

to women and Scheduled Castes, Scheduled Tribes and like communities". Incidentally Justice Iyer made the said categorical statement in an informal chat when we (viz., myself & Sri SS Joshi) called on him by seeking an appointment on one of those days, at his residence in Kochi during our visit in the first week of Sept, 2007 (as we were there to participate 8th memorable annual meet of SFRC alumni — memorable since I had escorted octogenarian Sri Bhoja Shetty from Bangalore and at Kochi, Sri KK Nair, my instructor and house tutor during 1954-'56 at Coimbatore, was also there to chair the meet).

Hair-Crested Drongo (*Dicrurus hottentottus*)

Source: Internet

The hair-crested drongo is an Asian bird of the family Dicruridae. This species was considered conspecific with *Dicrurus bracteatus*, for which the name "spangled drongo" – used for both – is now reserved; some authorities include the Sumatran drongo in *D. hottentottus* as subspecies. It is native from Bangladesh and Bhutan through Indochina to China and Brunei. Hair-crested drongos move in small flocks and are noisy; the "spangled drongo," *Dicrurus bracteatus* is native on the east coast of Australia and its name is pejorative slang for a silly person. This may be due to its strange cackling. «Complete Book of Australian Birds» Reader's Digest.1977. In 1760 the French zoologist Mathurin Jacques Brisson included a description of the hair-crested drongo in his *Ornithologie* based on a specimen that he mistakenly believed had been collected from the Cape of Good Hope in South Africa, he used the French name *Le choucas du Cap de Bonne Espérance* and the Latin *Monedula Capitis Bonae Spei*. Although Brisson coined Latin names, these do not conform to the binomial system and are not recognised by the International Commission on Zoological Nomenclature.

When in 1766 the Swedish naturalist Carl Linnaeus updated his *Systema Naturae* for the twelfth edition, he added 240 species, described by Brisson. One of these was the hair-crested drongo. Linnaeus included a brief description, coined the binomial name *Corvus hottentottus* and cited Brisson's work; the type locality was subsequently corrected to Chandannagar in West Bengal. The specific name *hottentottus* is from "Hottentot", a term used for the Khoikhoi, a nomadic pastoral people of southwest Africa; this species is now placed in the genus *Dicrurus*, introduced for the drongos by French ornithologist Louis Jean Pierre Vieillot in 1816.

GREEN QUIZ CHAMPIONSHIP APRIL 2020**Dr. K. Tirupataiah**

This month's quiz competition is on "International Day of Forests".

1. The International Day of Forests (IDF) is celebrated on ----- day ----- Month	2. The First International Day of Forests was celebrated in the year -----.
3. Which Forum of the United Nations coordinates the celebration of International Day of Forests? a) UN Forum on Environment, b) UN Forum on Forests, c) UN Forum on Climate Change, d) UN Forum on Biodiversity	4. Which Organization of the UN collaborates in celebration of the International Day of Forests? -----
5. In 1971, the "States Members" of FAO voted to establish ----- on 21 st of March every year.	6. The first six annual events to celebrate forestry were convened by ----- a) Common Wealth Forestry Research Institute b) Centre for International Forestry Research c) World Forestry Research Institute d) US Forestry Research Institute
7. UN declared which year as the International Year of Forests? a) 2010, b) 2011, c) 2012, d) 2013	8. Forest day was made part of which UN Convention from 2007-2012? a) UNFCCC, b) UNCCD, c) CBD, d) CITES
9. In 2013, the Forest Day and the Agriculture & Rural Development Day were merged to form: a) Global land forum, b) Global landscapes forum c) Global Agro-forestry forum, d) Global land forum	10. UN Forum on Forests is headquartered in New York. Which UN body is the parent body of the forum? a) UNICEF, b) UNIDO, c) UNESCO, d) UNEP
11. Centre for International Forestry Research (CIFOR) is the parent organization for Global Landscapes Forum (GLF). GLF is headquartered in: a) New York, b) Lausanne, c) Rome, d) Bonn	12. The theme of International Day of Forests 2019 was: a) Forests and Education, b) Forests and Economy c) Forests and Entertainment, d) Forests & Future
13. The theme for International Day of Forests 2020 is: a) Forests & Energy, b) Forests & Sustainable Cities, c) Forests & Water, d) Forests & Biodiversity	14. World Wood Day is celebrated on: a) 20 th March. b) 21 st March, c) 22 nd March, d) 23 rd March
15. According to an estimate by the FAO, how much Forest area is lost every year in the World? a) 7 million ha, b) 5 million ha, c) 3 million ha, d) 2 million ha	

For answers please see page no. 34

Fiction: **THE GODS ARE WATCHING**

By
J. V. Sharma

(Continued from last month)

Part – III, LIVING MAN IN THE HELL: Now that the ball is in Indra's court, he has to make it a thorough job. Not only he has to satisfy himself of the job done but it has to be perfect from every conceivable angle and has to satisfy the Supreme Gods who will grill him to no end to get to bottom of the issue. He took up a serious study of the problem from the earliest days of civilization on globe. Easily available inputs made him to know that it was all woods and wilderness on earth before the arrival of the man. He was a later addition among the countless life forms created by God. A critical study of evolution of civilization of pre-historic, ancient, medieval and the modern era made him believe that the area under tree growth and human population have a definite relation of inverse proportion. More importantly, Indra became aware of environment and its growing importance. Environment was a non-issue in celestial world. Casual inputs made him understand that environment is a crucial issue as far as earth is concerned. The more he was trying to learn about environment and related matters, the stickier it is found to be. He feared that the celestial world too may face environmental problems in future because whatever happens on the earth has to spillover to the other world one day or other in one form or other. What he could not comprehend was why the humans, the Indians in particular, with their high degree of intellect and foresight, display scant respect to environment at home while they are very vociferous in their criticism of USA for not adequately responding to environmental concerns on the globe. He wanted to gain a thorough insight into the practical dynamics of interplay between the man and environment.

The Lord of Heaven needed the services of a suitable person from the earth to brief him comprehensively of the situation. His biggest doubt is while the environment was not a matter of concern for millions of years, why did it become so critically important now. He initiated a search for a suitable person. First, he started looking for such person in his backyard from among people who came to heaven from earth. Search narrowed down to people who were connected to environment on earth and the foresters appeared in priority as forests are the most visible environmental resource.

He faced a practical difficulty. God ordained all the inmates of heaven forget their entire past and move as individuals in heaven free from any sentiment or feeling for the fellow-inmate. Even friends, relatives and acquaintances on earth are total strangers to each other in heaven. As it is, very few foresters had come to Heaven. He started contacting the foresters in heaven bestowing memory temporarily upon them. Many of the old generations expressed they did not know much about environment. The few who heard of environment refused to participate in the exercise saying that they had left the hell (the earth) for good and are not interested to go back.

Indra sought advice from Brihaspathi, the Head Priest and Chief Counselor of all Gods. He said that finding a suitable person is not the lone difficulty and there will be several other practical difficulties also to surmount. "The person you need should not only be an environmentalist in the academic sense but must be committed to it. We couldn't find one amongst the virtuous who came to heaven. Those who go to hell are known sinners whose credibility is questionable. So, you should look for one who has a proven record

and reputation, not yet dead but shortly to die. He can't go back to earth after interacting with gods. We must avail his services when he is still alive and his end should be synchronized with the end of his role in this mission. Importantly, he must be prepared to depart prematurely from earth voluntarily to serve your purpose. The old lawyer who had recently come to hell may be able to help finding one."

Indra contacted Yama immediately and explained the situation. No time was lost in pressing Chitragupta into service to contact the old lawyer. Chitragupta is a clever diplomat. Like an earnest seeker of knowledge, he enquired about environmental problems on earth and the persons who are seriously working on that. He held back the real reasons of enquiry, lest the old lawyer may hold even the gods to ransom.

Old lawyer took Chitragupta's enquiry on its face value. "I am a lawyer and have no knowledge of environment. I always took interest only in clients who pay me fees and the legal matter connected thereto. Now that the environment had acquired great importance, thousands of persons are parading as environmentalists and environmental activists. Many NGOs have also taken birth in this context. Started as selfless low-key movement to save good environment, it graduated into a high-profile profession before long. Quite often, vested interests hijacked it to exploit it commercially. Some years ago, one rich and politically very influential party approached me to hire my services offering a hefty fee in a case of forest land diversion for commercial purposes. They also obtained all permissions from the Government. One old and retired forester stepped in and prepared a strong case to stall the project. After going through the relevant papers, I could not but admire the old forester's grit and commitment. I don't fight losing cases and therefore refused to accept the brief. From further conversation, Chitragupta learnt that the old forester is in his mid-eighties thus does not have much of time left on earth. He made a

beeline to Yama who in turn discussed with Indra and an action plan was soon on board.

It was morning time on earth. The old forester had his morning coffee and scanned through headlines of a newspaper. He remembered something suddenly. He put aside the newspaper and took his 'ideapad' in hand. Hardly did he start working on it; he slumped in his chair and went into coma. His children rushed him to a noted corporate hospital. He was promptly put under the care of specialist doctors in the intensive care unit (ICU). Investigations started in right earnest. From here on, it is a story of surprises.

The BP is 120/80; Body temperature – 98.6 Degree F; Heart Beat – 72 per minute with even breathing. ECG showed harmless first-degree LV infraction and 2D Echo was negative. These results baffled the doctors who went for all the tests they could imagine. Lungs are clear with normal function. No renal problem could be detected. No neurological abnormality nor of gastroenterology. No symptom of any stroke and all the limbs and functions are absolutely normal. But for the coma, the patient is perfectly healthy from clinical point of view. After great deal of intensive discussions among specialists from various branches of medical field, they decided to shift him to a special room to be given only IV fluids with vitamins now and then under the constant care of a doctor.

Old forester was presented before Yama. The forester soon surveyed the situation and became convinced that he was dead and brought to Hell to answer his sins. He realized that he was standing before Yama and did not also miss Chitragupta. He was eagerly looking at Chitragupta to present the catalogue of sins committed but the Head Accountant was silent with an enigmatic benign smile on his face. Even Yama was looking pleasant in his bearing. Then the old forester realized that there is something very uncommon in himself in as much as, he felt he came

to a strange place on a visit rather than to hell after death. He was feeling as normal a man as he was on earth when alive. Further conversation roughly went on the following way:

Yama: Man! How do you find the place?

Old Forester: Lord, it is very nice.

Y: Are you sure of the place you are in?

OF: Surely Lord. It is Hell.

Y: Are you not overawed and frightened to be here?

OF: No, My Lord. Instead, I am rather surprised. I expected the Hell to be really fearsome. But I find the atmosphere here very normal. Benign looking Yama and a smiling Chitragupta are much more than what a dead man could hope for.

Y: Do you expect any compassion from me?

OF: No, My Lord. I don't expect it even in my wildest dreams. You are Dharma incarnate. I will get due punishment for my share of sins. I have no doubt about it. It only surprises that I am not indicted yet and awarded punishment.

Y: I find it strange that you do not seem to be afraid of the death or the punishment you are likely to earn in Hell.

OF: Lord, Nature's law as understood on earth says that death is as certain as birth. Every life-form born has to perish. I am fortunate to have lived up to 85 years and live by myself. It is time to die when life becomes a burden. I have no regrets for the death. On the other hand, I am so happy that God ordained my death to be so sudden and painless.

Y: Do you have any unfinished agenda on earth?

OF: I for one do not have any agenda. I was engaging in one activity or other on earth because God had given me the opportunity and the strength. When He felt it is enough, I have been dispatched to you to answer my sins. The element of "I" does not figure in my case.

Y: If everything in life is God's design, why are you apologetic of your presumed sins?

OF: Human being is one of the countless life forms created by Him. He bestowed the man with intellect and it is up to him to follow dharma. But we are humans susceptible to guiles of the world. It is not appropriate for the man on trial to declare he is pious. The Judge will have to say he is not guilty of any sin.

Y: Well, Man, you are not yet dead. Does it surprise you?

OF: Lord, I have been trying to unravel the situation right from the time I was presented before you. I felt perfectly normal as I was on earth. But my physical presence before you are equally compelling to feel otherwise. It is indeed an enigma I am unable to comprehend. I am more in confusion than in surprise when you said I am not dead. I have not heard of any human entering Hell while alive.

Y: Man, it is true that no living creature enters the Hell. We brought you here with a purpose to have an honest appraisal of situation on earth in matters of environment in particular of which you are conversant. I have also to make it clear that you will be dead for ever once this assignment is over and you will not be back on earth.

OF: Great favor, my lord. I have no intension of going back to earth.

Yama instructed Chitragupta to care of all necessary arrangements for the old forester's stay in the Hell. Old forester had to be quarantined and though he did not ask for any, some special steps had to be taken to meet his basic requirements. He also told the old man that Chitragupta will interact with him on various issues as and when necessary.

It is a strange feeling for the old man at his new abode. He did not have any regrets for exiting from earth but life in Hell, as a living human, proved to be quite daunting. Though he was used to simple

life on earth, the absence of routine he was used to, was causing mental stress. Since his mind and memory are still active and firmly tuned to events on earth, he yearned to know more and more about what is happening on the globe. There is neither communication media nor books to read. Neither is there a computer to work on nor the internet to access. Above all he did not have any to interact with.

Deprived of the facilities that would engage him otherwise, he decided to explore the Hell. Contrary to general belief, Hell is a well-organized place. It is a place exclusively earmarked for administration of justice. There is no other population there except those associated with judicial work and implementation of the punishment awarded and their families. Barring the administrative, regulatory and maintenance staff, the rest of population comprises of under-trials and the convicted. It can perhaps be described as a huge prison and a Court. Necessary infrastructure to cater to the needs is well in place. Functionaries are disciplined, committed and dutiful. Needless to say, that the arrivals in the Hell are on increase in as much as it is in proportion to the escalating population on earth and the steep rise in the number of sinners. Lord Yama, Dharma incarnate, rules the territory with unwavering equanimity. No favors are sought and none granted.

With past being still firmly etched in memory, the old forester wanted to see whether any one known to him can be sighted among the convicted. A quick round of barracks sheltering the convicted people sent chill in his spine. The sight was frightening and repulsive. He could recognize a former chief minister of a State who put his entire weight behind granting land rights even in bogus claims resulting in loss of vast chunks of forests under Forest Rights Act, encouraging the people for fresh encroachments. He was sentenced to live in an environmentally hazardous place with no ventilation, fresh air and water and without a single blade of grass in sight. The former dignitary

is seen unclean with sunken cheek, his body full of blisters emanating stench. The old forester could also recognize another landlord cum politician who pillaged valuable forest growth at will and hunted wild animals indiscriminately. He was running helter-skelter continuously scampering for cover like a scared wild animal with fear writ large on face. The forester did not have the heart or the mind to look for known faces any more. He fully understood why the people are afraid of Hell. He is convinced that a person might escape punishment on earth but he has surely to pay for sins after death.

Part – IV, PAY FOR THE SINS: The old forester recapitulated the conversation he had with Lord Yama. He tried to figure out the areas where he could possibly be of some use. He couldn't think of any. His thinking process got stuck at the very initial block as he was firmly of the opinion that he was a mere human being and the very suggestion of helping the Gods was unthinkable. At the same time, he was very conscious of the fact that some conversation did indeed take place with Lord Yama and Gods wouldn't trifle with unnecessary issues. Yama's words "We brought you here with a purpose to have an honest appraisal of situation on earth in matters of environment of which you are conversant" were still ringing in his ears. The forester decided to answer the queries to the best of his ability, rather than being over-zealous.

But he was not to be in dilemma for long. Chitragupta was fully aware of the problem and also was conscious of the limited time at his disposal. He went through the dossier of the old forester and was convinced that "he always tried to be on the right side of the law and the omissions, if any, were either incidental or in good faith: after all, he is a human being subject to compulsions of life on earth". He came to the conclusion that he could take the forester into confidence even on matters concerning celestial world. He heard Yama clearly say that the

old forester would not be going to the earth again and it reassured him that he need not be very formal and unduly discreet in dealing with forester. He did not want to lose time to set the process in motion.

Chitragupta took the forester to a forest area in the Hell and it was a captivating sight for the forester. Ever since he was brought to Hell, he did not have an opportunity to see woods and this experience provided him immense peace. Though retired, while on earth, he used to look for the slightest opportunity to visit forests, often to the inconvenience of his friends and local staff that had to arrange the visit. Chitragupta and the old forester set out on a long walk in the forests and continued their conversation which veered round many topics over life on earth. But it was all general with no specific emphasis on any particular issue. The visit, however, provided them the right environment to strike at the right cord for a free and frank exchange of views.

After a couple of visits, Chitragupta felt the time is ripe to get on to the actual business. He, being a consummate diplomat, knew well what to say, how much to say and how & when to say. Without furnishing all the actual details of the circumstances that led to bring the forester to Hell, and without revealing the predicament and embarrassment the functional Gods experienced in discharge of their duties, he adroitly explained how the systems functioned for ages were becoming erratic with particular reference to climate change and natural calamities. Needless to say, that all the serious discussions Gods had among themselves were to be kept as secret.

The old forester felt immensely happy. The topic which was closest to his heart on earth came before him as his staple diet. Never did he ever bargain for this kind of fortune in life. The entire latter part of his life, he was fighting for the cause of environment, and it was like running after the mirage. Here in

the Hell, he found environment coming in search of him. For once, he felt sorry for the human race: how insensitive and foolhardy should it be to spurn the great opportunity to preserve and protect the environment which is so crucial to life in the world. It suddenly occurred to him that he should seize this opportunity to do some good to environment using the present situation, if only possible. He was fired with all the enthusiasm which gave him lots of energy to speak endlessly with Chitragupta.

It was a lengthy monologue from the old forester. He traced the environmental conditions existing in his native country at the dawn of civilization when it was all woods and wilderness. "The woods provided the much-needed sustenance to the sparse population that existed then. Clean air to breathe, fresh natural & nutritious food-items in plenty at hand in the nearby forests, and crystal-clear-water to drink even in small streams flowing close to their makeshift dwellings, were more than anything one could hope for. There was a kind of contentment among the people. Yet, it was primitive way of living. Things could not be static in an evolving world. With passage of time, the way of life (or call it civilization in the broader sense) too changed. **People tend to improve their living conditions which made them to prefer a settled living instead of being nomadic.** It gave rise to establishment of settlements and community-living which assured them better security.

"Community-living gave rise to social customs. Primitive way of life got slowly replaced by improved living standards. Settled farming practices and innovation shifted the focus on to increased production of food-grains of better variety & quality. As time passed there had been phenomenal spurt in population and it had taken a heavy toll of traditional woodlands that existed for centuries. There had been no agricultural policy in operation to link production to productivity, and more importantly, there was no mechanism to regulate need-based-farming and

technical-interventions in farming-sector. All these factors prompted unsustainable demand on land-requirement. Forests which are acknowledged as primary environmental assets have greatly diminished in size as well as content.

“As if to compound the miseries of environmental degradation, large scale mining and industrialization have become the order of the day in the name of development. **Development per se is necessary for the well-being and security of any nation. But it is also essential that the said development is calibrated in sync with the environmental needs and security.** Electoral politics have obliterated all the red lines of nature. **Populism has further vitiated the atmosphere.**

“**Lord Yama is Dharma-incarnate.** Whoever is having doubts in the universe even on the minutest nuances of interpretation of Dharma looks to the Lord of Hell for clarity. Ages ago, Lord Yama explained to Nachiketha, the seeker of knowledge about salvation of souls, that what is good in this world is not what we may consider pleasing, and when confronted with a choice between what is good and what is pleasing, the wise man chooses what is good. Man lacking intelligence, chooses what he finds pleasant, which means he chooses what is pleasing in a worldly sense.

“This is exactly what is happening on earth. God while creating the Universe had also created millions of life-forms. **God has also created numerous abiotic features, which are as important as living-creatures, all to exist in unison & harmony, which in turn ensures a balance in management of the world. Entire system is fused into nature.** We started calling them Biodiversity and Ecology. Man is also one of the life forms created by God, and bestowed a special favor, granting intellect upon him. Bottom-line set is to **respect the nature which otherwise means any action to disturb the**

nature is bound to have far reaching adverse consequences.

“While all the other creations continue to abide by nature's laws, the man appears to develop a compulsive tendency to flout the nature's laws. **As the civilization progressed, there was a relentless pursuit on his part to make his life more comfortable than the fellow denizens of the world.** What is most alarming was his ruthless subjugation of all life forms and abiotic features? He does not appear to be content with mere comforts of life but goes beyond, to nurture greed, avarice, hatred, selfishness, and dominate the world he lives in. There does not appear to be any limit to his high-flying desires. Disastrous consequences were witnessed on earth with manifestation of climate change with worse to follow.

“In the end analysis, **nature's laws are clear and time-tested.** Universe survived with these laws for millions and millions of years. They held well as long as these laws are respected. **Aberrations are seen only when they are interfered.** Therefore, I believe that the system devised in nature is flawless. Unbridled development together with populism tempered by human avarice is at the bottom of the present problems. In short, this is the ugly side of arrogance of intellect bestowed on humans. There are bound to be consequences for indiscretions. Thus, the natural calamities are self-inflicted and they are only warnings for much graver consequences to follow. It is a price for indiscretions committed. Nature will react appropriately when necessary.”

Chitragupta heard the old forester with rapt attention. He became totally convinced that there is nothing wrong in the system and there is no need to be alarmed as apprehended by functional Gods. If things are going awry, it is only a rebuke for the wrongs done. He briefed his boss Yama accordingly who in turn appraised Indra and the Supreme Gods. It is no longer an issue in the celestial world.

For Chitragupta, old lawyer's issue was still unresolved. He knew that it was the lawyer who provided the leads to the old forester. He decided to involve the old forester in the matter. By now, he knew the old forester well and believed that there was no harm in confiding in him on the predicament in Hell.

Soon a meeting between the old lawyer and the old forester took place. By all accounts it was warm. The old lawyer had respect for the forester and they struck an amiable equation instantaneously. The lawyer was very happy to meet the forester and their conversation soon veered round his trial at Yama's Court. After hearing the lawyer, the forester smiled and said: "Sir, I have nothing to say about your legal knowledge and experience. But I feel we lived our life on earth, and you know **none had ever been a permanent tenant on earth. When the time is up, every one exited and none returned. It is nature's law and every life-form is subject to it.** I think we are among the fortunate to live that long on earth, as our physical ability permitted. Assuming Hell is horrible, life on earth with physical disabilities and total dependence will be much worse. You are an erudite legal expert and you know the laws made on earth are subject to interpretation depending upon the situations and circumstances. But the **celestial law is timeless.** There is one Court and one Judge. No appeals and no revisions. I may remind you that the Lord of Hell has already made it clear that Law in Hell will prevail when you raised the issue of jurisdiction. It is a pretty good signal to imagine the future. By submitting ourselves to law of Hell while in Hell, we are only abiding law gracefully."

The old lawyer closed his eyes for a few minutes and was in deep thought. When he opened his eyes, there was peace in his disposition which could be seen in his eyes. He slowly muttered; "Friend, you are right. Thank you."

On earth, the first ever International Conference on "Health beyond the Medical Realm" had been in session in India for the last four days. As many as 178 countries were taking part. Eminent persons of medical field, not only of allopathic system but also of various other systems practiced on the globe, were in attendance. It was a big event in which politicians, social activists and administrators had shown unexpected interest, not to speak of governments who willingly came forward to sponsor large delegations from different walks of life, involving huge expenditure. Health was the most crucial sector none could afford to be seen ignoring. Incidentally the conference was being held in the city where the old forester was lying in coma.

A highly reputed professor of medicine who had been closely following old forester's health-problems, presented a paper at the conference with a brief introductory speech; "We have any number of diseases in the world of which only some are in medical realm. Even among the known diseases, there are some for which we have no known curative prognosis to offer. Yet, we are able to find out, on the basis of diagnostic support and logical evaluation, that something is wrong in the system and the patient is sick. Here, we came across a case where we are unable to say that the person is sick even after exhausting all known parameters of health check-up. I place before you the entire medical record of the patient and request you to come out with your suggestions and advice. The patient, if I may call him so, is very much in this very City, and you will have free access to him round the clock."

It was hard for the medical fraternity to accept the professor's statement on its face-value. They were not prepared to accept that medical fraternity is unable to declare a man sick even when he is in coma. After the professor concluded his detailed presentation which was very exhaustive with minutest details, he fielded questions from the participants. As

anticipated, an expert from US asked; "Professor, a person in an indefinite coma is a sick person. How can you justify it differently?"

"It is normally so. But the coma should be authenticated by a cause, which is not discernible in this case. When all the health parameters are perfectly in accordance with text-book-standards, we have no justification to call him sick. It could be he is in deep interminable sleep."

"That's it. Interminable sleep without responding to efforts to wake him up, and continuing to be so for days together, could also be an ailment which is yet to be discovered by the medical research."

"That view, at best, is a conjecture. Medical science needs hard identifiable and quantifiable proof to reach a conclusion. Here, we have no trace of credible evidence to conclude he is sick. Like in jurisprudence, none can be declared sick until the sickness is conclusively established by standard-operating-systems. We have also conducted his brain-mapping and I say with full responsibility that it is perfectly normal and fully functional. There are no symptoms of even cerebral atrophy."

It was decided that a group of about a dozen experts in various branches of medical science should examine the patient and deliberate upon the condition at his bedside. Accordingly, 13 eminent medical men of international repute visited the patient and spent unusually long time discussing the case in the patient's room. After nearly five hours of study and discussion, they agreed with the Indian professor that the diagnosis is elusive and the patient cannot be considered as sick. They unanimously agreed to treat it as a wonder in the medical field.

As the doctors were coming out of the patient's room, the duty doctor keeping vigil over the patient let out a loud shriek in panic. It did not take more than a few seconds for the senior doctors to rush to the patient's bedside. To their utter astonishment, the pulse and heart beat dropped suddenly and the old forester breathed his last, even as the medical men stood exasperated. After a very brief discussion on the cause of death, the old forester was declared dead due to cardiac arrest, an all-pervasive reason very handy to doctors. The old forester was as good an enigma in death, as he was in bed, seconds earlier.

It was just the time the old forester's assignment in Hell came to an end.

Birthday Greetings
We wish the following born on the dates mentioned
"A Very Happy Birth Day"

S.No.	Name of Serving Officers	D.O.B.	S.No.	Name of Serving Officers	D.O.B.
1.	Ms. Nandani Saleria	06-04-1988	12.	Bolleddu Vijay Kumar	24-04-1968
2.	Dr. Shanthi Priya Pandey	08-04-1972	13.	C. Selvam	24-04-1986
3.	G. Kista Goud	08-04-1974	14.	M.J. Akbar	26-04-1962
4.	R.M. Dobriyal	10-04-1965	15.	Poojari Venkateshwarlu	01-05-1962
5.	Bora Raja Rao	12-04-1965	16.	Ravuri Hanumantha Rao	01-05-1961
6.	Leli Bheemaiah	17-04-1963	17.	B. Nagaraju	01-05-1963
7.	R. Jagannath Singh	18-04-1985	18.	Padal Sagar	03-05-1964
8.	B.N.N. Murthy	19-04-1979	19.	Kallol Biswas	04-05-1964
9.	M. Siva Prasad	20-04-1981	20.	Maddela Joji	04-05-1967
10.	K. Rajasekhara Rao	20-04-1968	21.	Tadepalli Sreenivasa Rao	04-05-1969
11.	C. Sridhara Rao	24-04-1965			



Sri N.Sridhar, I.A.S., C&MD, SCCL inaugurating Telanganaku Harithaharam in Singareni



6 years old plantation
(Hardwickia)

- SCCL contributes 10% of country's total coal production. SCCL achieved the highest ever coal dispatches of 64.6 M.T. during 2017-18.
- SCCL planted 3.72 crores of saplings in 10,932 Hectars of land (up to July 2017)

Rehabilitation of RF land (Non mandated)

- SCCL honoured with "Indira Gandhi Vriksha Mitra Award - 2004", "Teri Corporate Environment Award - 2004", "Golden Peacock Environment Management Award-2005" and "Golden Peacock Innovative Product/ service award -2015" and many more for it's Eco & Environmental friendly mining.
- Sri N.Sridhar I.A.S., C&MD SCCL honoured with "Asia Pacific Enterprenuer Ship Award - 2018" and "Outstanding Leadership Award - 2018".



THE SINGARENI COLLIERIES COMPANY LIMITED

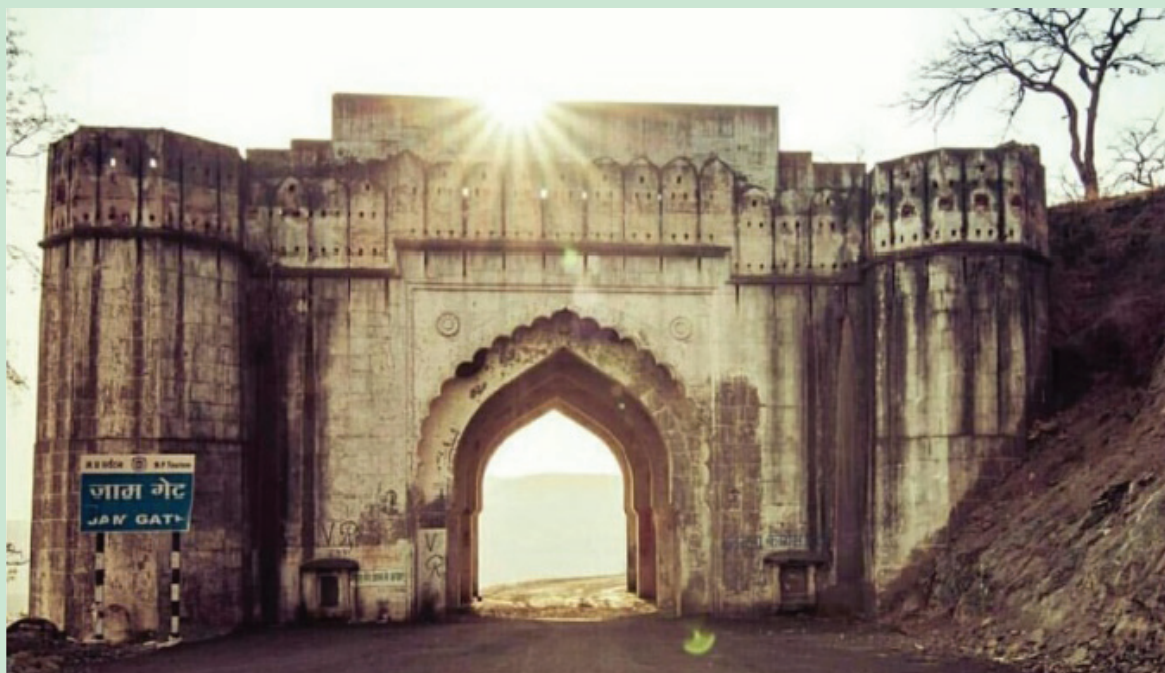
(A Government Company)
Telangana State



◀ *Dr Kodira Achappa Kushalapa,
IFS (Retd.)*

*Author and Editor 'Vana Premi'
Bheem Janma Bhoomi ▶
(Please see page No.35)*





▲ Jam Gate on Mandleshwar Highway, Mho plateau. (Please see page No. 35)



▲ Participants with their spouses at Mahakaleshwar Temple (Please see page no. 36)



GreenAP

Mobile App

- ◆ With a vision to increase green spaces and to improve the quality of life of the people, **Andhra Pradesh** Government has come up with a unique initiative with the support of APG&BC in launching **GreenAP** mobile application.
- ◆ This app helps in bridging the gap between consumers and the vast vendor eco-system across the country who are dealing with green products and services.
- ◆ Consumers will now have access to vendors to procure plants of various kinds including indoor, exotic, lawns, roof top gardens, vertical gardens, etc.
- ◆ With this mobile app they will have access to the products like pot vendors, aquariums, landscape designers and many more.

Salient Features



Vendor Directory



News



Enquiries



Forums



Events

Consumers can select vendors who are closer to their city or town for any purchase by browsing through the hundreds of profiles available in the **GreenAP** mobile app. Consumers can access vendors via WhatsApp, SMS or Phone.



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KUSHALAPPA – A FORESTER NON PAREIL

By
K.B. R. Reddy

Vana Premi was in its formative years while I was its founder and editor. After seeing a copy of the magazine, Dr. K.A. Kushalappa, has written the following letter to me in 2004.

“My introduction to Vana Premi”

“Dear Reddy garu,

During our Ex-SFRC Students meet at Coimbatore in 2003, I was introduced to this journal and I became a subscriber. I am now really happy that forest officers of A.P. have taken keen interest in all forest activities and are being reflected in your popular journal. I know the difficulty in keeping the journal going, as I was earlier the editor of My Forest in Karnataka.

Alumni of SFRC will be meeting at Bhubaneshwar between 28th November 2004 and 30th November 2004. This may be announced in your esteemed journal-Vana Premi- for the benefit of its readers.

Regards,

Dr. K.A. Kushalappa: Mysore.”

Dr. Kushalappa was not known to me until I was introduced to him by my esteemed friend Sri R.D. Reddy, his batch-mate in the IFC, during one of the SFRC Alumni meet in 2004. I was impressed with the person's stature and his zest for esprit de corps.

The continued interest of Dr. Kushalappa in the retired forest officers in general, and the monthly magazine Vana Premi in particular, is worthy of appreciation. In another letter to Vana Premi, he had to say the following:

“Fifth SFRC Meet”

“Sir, Glad to hear that the congregation of retired forest officers of SFRC origin at Bhubaneshwar was

a grand success. The group photo published in Vana Premi (Vol.6 No.1) shows the fact and its growing year after year. I really missed my senior and junior colleagues this time. What are our achievements even after the fifth meet except meeting our classmates and others, and enjoying their company? I was told that lot of money was saved and transferred to next meet accounts in Gujarat. I had suggested starting an alumni association with headquarters at Coimbatore and keeping some amount in the College for a gold medal or an award for the top student of SFRC in the name of the association. But no such discussions were held. Each state should have a nominated representative like Shri Joshi for Karnataka; Shri Deshpande for Maharashtra to represent in the executive committee of SFRC Alumni association. However, it is not too late and we could start thinking on these lines till we meet under the leadership of Shri Sama in Gujarat.

Vana Premi has truly become a national magazine of foresters. Our congratulations to the office bearers and editors”

Dr. K.A. Kushalappa, IFS(Rtd), SFRC(Hons) of 1960-62 Batch

The journey of the life of Kushalappa is a saga. Born in a village of Coorg State (now called Kodagu district of Karnataka) in 1937, he grew up in sylvan surroundings and did his B.A. from the Government College at Mercara (Now called Medikeri). As for his career, he chose forestry and did the Rangers Course from the SFRC at Coimbatore. He competed and was selected for the superior course in forestry at the IFC Dehra Dun during 1965 – '67 and secured Honors. He got into IFS in 1968 and was allotted to Karnataka cadre. He was selected as a

'Commonwealth Scholar' and did M.Sc. (Hons) from University of Edinburg. His zeal for pursuit of earning higher qualifications did not end and therefore, he earned a doctorate degree in forestry in 1988 from Mysore University. He had a passion for Research in forestry, which is not easy; and worked for a number of years in that branch and published many scientific papers. In the state of Karnataka, he rose to the rank of Conservator of Forests. Government of India MoEF made him CCF and he worked as Regional CCF at Bhopal and Bangalore for three years and retired from service in 1995. He earned the epithet of "A Dedicated Forester" for the service he rendered while in service and after retirement He spent his retired life in Mysuru and because of tragic demise of his beloved wife, he moved to Bengaluru to stay with his daughter.

Dr. Kushalappa had attended many institutions of learning but his reverence for the alma mater – SFRC - and love and affection for its alumni has a lasting effect. The pride of forest service is the institution that trains the selected recruits. He zealously participated in many of the meetings of the SFRC Alumni despite the fact of his suffering from parkinsonism and tormented by the age-related ailments. He organized an alumni meet at Mysore in 2011 and it went off so well. Dharwad in Karnataka was another venue for the 19th Range Forest Officers Meet in 2018. Kushalapa not only participated in the meet but also published a detailed report on the proceedings.

Kushalappa wrote true story of his life which blossomed into one lovely autobiography; he dedicated it to the memory of Flora and Fauna inhabiting this Planet. A good gesture and a great work in deed! Dr. B. Raghotham Rao Desai, my old-time friend, school and college mate and batch-mate at SFRC, who retired from IFS of Karnataka cadre, has reviewed the book, Vide Vana Premi (Vol. 21 No. 3). He paid rich tributes to Dr. Kushalappa; a few observations are extracted below:

"This book by Dr. Kushalappa punctiliously mentions all those of his family, neighborhood and colleagues. The book is meticulously printed and attractively bound for posterity.....The author is not the type who considers temporary despairs, difficulties or disappointments to conclude that life is not that meaningful. He belongs to the elite who are indeed invaluable part of this universe and have a purpose to fulfill for the conservation of biodiversity.....The author gives an inspiring account of himself as a distinguished forester.....It is certainly a laudable effort to write his memoirs in this beautiful book titled, "An Autobiography of a Kodava Forester." Kushalapa in deed is a forester nonpareil. May God bless him with long and healthy life!

Answers of green quiz April 2020

1. 21st March; 2. 2013; 3. b; 4. FAO; 5. World Forestry Day; 6. b; 7. 2011; 8. a; 9. b; 10. c; 11. d; 12. a; 13. d; 14. b; 15. A.

*I believe that the greatest gift
you can give your family and
the world is a healthy you.*

(Joyce Meyer)

RE-UNION OF 1968-70 SFRC BATCH AT INDORE (M.P)

By

V. SANTHASEELA BABU

After leaving the Southern Forest Rangers College, Coimbatore, the batch mates of 1968-70 batch met for the first time at Coimbatore from 1st November 2018 to 3rd November 2018 and celebrated the re-union as a Golden Jubilee Meet. During that time our batch mates from Indore Mr. P.C. Pachori and Mr. H.P. Singh volunteered to conduct the next re-union meet at Indore.

During November 2019 it was informed that the re-union meet of 1968-70 SFRC Batch would be held at Indore (M.P) from 23-02-2020 to 25-02-2020. Totally 18 members have expressed their willingness to participate in the re-union meet, 14 members along with spouses and 4 members single bringing the total participants to 32.

Majority of us reached Indore on 22-02-2020 and a couple of members reached on 23rd.

DAY-1: (23-02-2020): The accommodation was arranged in Hotel Crown Palace at Indore for all the participants. It was almost an introductory meet and all the participants met their old friends, roommates and bench mates in the college and all were excited for meeting each other. Group photographs were taken for all the participants both single and with spouses as a remembrance of the re-union meet. In the evening Dr. R.K. Sharma from Sanatan Charitable Trust was invited as Chief Guest. Sanatan Charitable Trust is a non-profit organization, established in 1992 that works primarily in the domain of Senior Citizens. Its primary office is in Indore, Madhya Pradesh. Dr. Sharma delivered a lecture on the activities of the Trust and about the rights of the senior citizens and as to how the Trust takes care of the senior citizens' health and rights. On conclusion of the meeting those who were interested to participate in happy

hours joined the happy hours and the ladies and other non- participants joined to play the "Housie (Tambola) game conducted by me and my wife Mrs. Bhagya Lakshmi. After having a sumptuous dinner all of us retired in to our rooms and called it a day.

DAY-2: (24-2-2020): All of us had breakfast and assembled at the hotel premises by 08-30 am by which time a bus came to pick us up to "Maheswar". All of us got in to the bus and started our onward journey to Maheswar.

BHIM JANMA BHOOMI: On our way to Maheshwar, we visited 'Bhim Janma Bhoomi' a monument developed at the birth place of Dr. B.R. Ambedkar. This is a memorial dedicated to Dr. Babasaheb Ambedkar, located at Mhow (now Dr. Ambedkar Nagar) which is 216 km away from Bhopal and 20 km away from Indore in Madhya Pradesh. This is the birthplace of Dr. Ambedkar, who was born on 14 April 1891 where the local Government built this grand memorial. This memorial was inaugurated on Ambedkar's 100th birth anniversary – 14 April 1991. Nearly 4.52 acres of land is connected to the memorial. Every year, millions of Ambedkar's followers, Buddhists and other tourists visit this place, especially on 14 April and celebrate Ambedkar's birthday with pomp and gaiety. The Prime Minister of India Narendra Modi had visited this place on the 125th Ambedkar Jayanti in 2016 to pay tribute to Babasaheb. This memorial is one of the 'Panchteerth', the five holy sites related to the life of Babasaheb Ambedkar. The Madhya Pradesh Government organizes 'Samajik Samrasta Sammelan' every year at Ambedkar Jayanti in Mhow.

JAM GATE: En- route to Maheswar we passed through the "JAM GATE" located on Mhow-Mandleshwar Highway on Mhow Plateau amidst thick

jungles. This Jam gate is located 2 km from Jamkurd village and approximately 30 K.M from Mhow and 55 K.M from Indore on Indore-Mhow-Maheshwar route (via Jamkhurd). There are two beautiful lotus carvings engraved on the front and rear of this passage. These two lotuses at the door mean 'Shri and Saraswati' stay within this state. Shri and Saraswati mean Lakshmi (Wealth) and Vidya, which is a Hindu Goddesses' representation of money and education. The palace has four magnificent towers with a height of 80 feet and a length of 75 feet and a width of 70 feet. The large holes that appear in the embankments of this gate are called 'rust'. These are big holes for hitting the enemy. Upon entering through this door, the resting place of the guards is seen, as well as the rooms for the guards to stay on the second floor. The inscription shows that this Jam Gate was constructed by Queen Ahilyadevi in 1791. It is said that after the surrender of dacoit Ganpatrao at the Maheshwar fort, this Jam Gate was constructed by Queen Ahilyadevi from the wealth obtained from the dacoit Ganpatrao.

All of us took the photographs at this JAM Gate as a remembrance of our visit to this place.

MAHESHWAR: From Jam Gate we reached Maheshwar. Maheshwar is a town in Khargone district of Madhya Pradesh. It is located at a distance of 91 km. from Indore. The town lies on the north bank of the Narmada River. It was the capital of the Malwa during the Maratha Holkar reign till 6 January 1818, when the capital was shifted to Indore by Malhar Rao Holkar-III. In the late eighteenth century, Maheshwar served as the capital of the great Maratha queen Rajmata Ahilya Devi Holkar. She embellished the city with many buildings and public works, and it is home to her palace, as well as numerous temples, a fort, and riverfront ghats (broad stone steps which step down to the river). It is said that there are more than 100 temples in Maheshwar. it seems these temples are telling the long history of Maheshwar,

most temples are spread along the right bank of the river near Maheshwar ghat and the vicinity of the fort

Maheshwar has been a center of handloom weaving since the 5th century. Maheshwar is the home of one of India's finest handloom fabric traditions. It is noted as a center for weaving colorful Maheshwari sarees. It rose to popularity under the rule of strong Maratha leader Queen Devi Ahilya Bai Holkar. Ahilya Bai wanted royal gifts for the royal guest. Hence weavers from Mandu and Surat were hired and Maheshwari saree and turban were weaved. It is said that Ahilya Bai herself designed first saree. These sarees were worn by female members of the royal court. These saris were also gifted to royal guests. You can easily see inspiration of designs in saris in local architecture. These cotton saris are weaved with distinctive designs involving stripes, checks, and floral borders. To save the local handloom industry Rehwa Society, an NGO was founded by the Holkars, in 1979. This NGO gave women employment and revived the town's textiles. About 130 weavers associated with the society produce over 100,000 meters of fine fabrics a year. The weaving center is located in one of Maheshwar's historic buildings.

Many of the ladies, who were with us did shopping and purchased the Sarees of their choices.

From Maheshwar we returned to Indore. Had our dinner and retired in to our rooms by calling it a day.

DAY-3: (25-02-2020): Today we all assembled after having our breakfast and boarded the bus by 9.00 am and started our journey to UJJAIN. Ujjain is an ancient city beside the Kshipra River in Madhya Pradesh. It is located at a distance of 52 km. from Indore. An important Hindu pilgrimage destination, it's known for the centuries-old Mahakaleshwar Temple, a towering structure with a distinctively ornate roof. Nearby, Bade Ganesh Temple houses a colorful statue of Ganesh, the elephant-headed Hindu deity. Harsiddhi Temple features a pair of tall

dark pillars studded with lamps. The presiding deity of time, Shiva, in all his splendor reigns eternal in Ujjain. The temple of Mahakaleshwar, its shikhara soaring into the skies, evokes primordial awe and reverence with its majesty. The Mahakal dominates the life of the city and its people, even in the midst of the busy routine of modern preoccupations, and provides an unbreakable link with past traditions.

It is one of the 12 Jyotirlingas, which are supposed to be the most sacred abodes of Lord Shiva. As per the Surya Siddhanta, a 4th-century astronomical treatise, Ujjain is geographically situated at the precise spot where the zero meridian of longitude and the Tropic of Cancer intersect. This is why it was considered the navel of the earth, and is called the "Greenwich of India."

After reaching Ujjain, the local forest officials guided us during the Darshan of Lord Maha Kaleshwar and we had a very comfortable Darshan. Our batch mate and my roommate during my 1st year in SFRC Mr. B.R. Satalkar who is settled at Ujjain came with his spouse and met us. He could not join us at Indore meet as he had some acute health problems. Mrs. Satalkar presented all the ladies with Mehendi and Kumkum packets.

From Ujjain we started our return journey and we had a sumptuous and delicious lunch enroute in a Dhaba. Finally, we returned to Indore and after

refreshing ourselves set in to the city for shopping etc. In the night we had our valedictory meeting and played Housie game and had our dinner. Those who were interested have enjoyed the happy hours. After the dinner we retired in to our rooms and called it a day.

DAY-4: (26-02-2020): In the morning all of us assembled in the restaurant of the hotel and had our breakfast. Incidentally it was the Birthday of Mr. P.C. Pachori and his Birthday function was celebrated amidst all of us by himself cutting a cake. All of us conveyed our Best Wishes to him and his wife.

As stated above, we all enjoyed our re-union meet along with our spouses and spent very exciting moments in our life and were mentally recharged by remembering the old SFRC days and our association with each and every one of us. Our batchmates from Kerala, Mr. N. Balakrishna Pillai and Mr. Patrice Gomez volunteered to hold next Re-Union meet at Thiruvananthapuram in Kerala State. All the participants expressed their heartfelt thanks to Mr. P.C. Pachori, Mrs. Durga Pachori and Dr. H.P. Singh and Mrs. Indra Singh for the wonderful arrangements they have made to see that all of us were kept comfortable and for smooth running of our Re-Union Meet. With pleasant memories, all of us bid goodbye to each other and started our return journeys to our places of stay.

Your health is what you make of it. Everything you do and think either adds to the vitality, energy and spirit you possess or takes away from it.

(Ann Wigmore)

FOREST FIRES IN THE MIDST OF GLOBAL WARMING. (A CASE STUDY ON BANDIPUR TIGER RESERVE)

By
B.M.T. Rajeev

Fires in BTR-2019: Bandipore Tiger Reserve (BTR) in Karnataka had all the preparations in advance to face the fire season of 2019. The Director Sri Ambadi Madhavan was at the verge of retirement and he had all his experience and will at his disposal to see that his TR was free from fires as a gift for his retirement in June, 2019. Alas, a kindle of forest fire accidentally set in a private land adjoining to TR escaped in to the park on 21st Feb, 2019 at north east corner (NE)-Kundakere; immediately the Managers of the TR took all possible actions to beat it out. The fire rekindled from the beaten path of fire and gained momentum in to a big fire on 22nd. The efforts to stop it could not succeed in full. Again on 23rd it took vigorous momentum aggravated by scorching Sun and strong winds from NE to sweep the forests like an inferno by over beating the efforts of the managers. It crossed the barrier of N to S-Mysore-Ooty Rd crossing the BTR and entered the foot hills of famous Gopalaswamy hills and caught the attention of the public and the govt. On 24th Feb, the Forest Minister Sri Satish Jariholi of the State rushed to spot and public/volunteers too rushed to help the park managers with men, food, water and fruits to douse the fire which went up like volcano engulfing the TR like shifting sand dune in a whirl wind in deserts through the chain of hills of the Gopalawamy hills. On 25th Feb, it threatened the adjoining Mudumali NP (T.N) and Wynad WLS (Kerala) too from the interstate tri-junction near Chammanahalla RH. The Park Managers of adjoining PAs rushed to help douse the fires with concern about their PAs." And it was election mood for the Lok Sabha-2019 which forced the Hon'ble CM Sri H. D. Kumaraswamy to order for hiring two Military helicopters for "Operation Fire

Dousing" and finally succeeded in accomplishing the job by the evening for the relief of the BTR/ KFD and the state government. The CM aerially surveyed the fire burnt areas of the BTR on 28th. Feb.

Scars of forest fires: The area burnt was estimated to 10,920 acres and damage done to the flora and fauna were un-fathomable since, the burnt area was with full of dead wood fuel load (DWFL)- like fallen branches, dead trees, leaf litter/dry grasses accumulated year after year without harvest or removal mechanism since 1973. Heaps of ash and un-burnt stumps and black smeared trunks of live trees and shrubs devoid of leaves, flowers and absence of birds and galloping animals was the scene of the burnt area. There was no account for the loss of the big or small animals and their young ones succumbed in the fire; reptiles and their young ones/eggs; birds and young ones/egg; and the scores of minor fauna and the flora in the inferno and the tons and tons of Carbon dioxide- CO₂ that was emitted to atmosphere.

In addition, the fires burn organic matter needed for trees/absorption of water, harden the soils causing rain water to run-off quickly, erode denuded slopes carrying loads of ash, sediments and debris in its path to streams, and rivers and in to reservoirs with pollutants/nutrients causing reduction in the storage capacity of reservoirs affecting the quality of drinking waters-a worried problem all over the world due to Global Warming(GM)/forest fires. (As per a study made by the Swansea University of UK on the effects of wild fires of 2003 on drinking waters of Canberra, OZ and other findings in US- vide Vana Premi, March, 2010.)

Actions followed fires: The Director of BTR was replaced and a Range Forest Officer suspended and 3 fire setters nabbed and prosecuted and a commission of enquiry set up to find out the causes of fires. The BTR received early rains in 2019 and nature sprung up to green and the area was occupied by the denizens from the adjoining areas. Artificial seeding of some tree spp and grasses was done. The Management continued to remain busy with its protection practices. The old fire protection measures are repeated for 2020 summer. If, some fire accidents occur in summer of 2020, the natural discourse will take place with the increased temperature and desiccating winds in the midst of the GW and Climate Change (CC). The press reports suggest that the BTR managers are afraid of fires and plead for "Global Super Tankers"- a plane fitted with 8 water containers rather than fire brigades and helicopters for dousing fires as in developed countries in the flagship TRs like Bandipore and Nagarahole.

The Fires in BTR-2019 and after actions indicates that fire occurs and the management moves on with its agenda of management without any introspection since 1973. What are the introspections to be taken to tackle the fire damages more meaningfully? Is the subject matter of this article?

Causes for Fires in BTR: Back ground: Bandipore, has a long history of wildlife conservation, as it was started as a 'Game Sanctuary' in 1931 over 90 sq. km, by the then Maharaja of erstwhile Mysore State (present Karnataka) exclusively for his hunting. It was extended over 800 sq.km in 1941 and named as 'Venugopala Wildlife Park' with a 'sanctum sanctorum' over 90 sq. km, in which, all the forestry operations were prohibited and left to nature, to provide undisturbed habitat to wild animals. This sanctum sanctorum of the erstwhile park was continued as 'tourism zone' with the establishment of BTR in 1973 over 880 sq.km; and extended to 1,000

sq.km. in 2010. Thus, the present tourism zone of the Bandipore TR has a long history of wildlife conservation for nearly 9 decades, since 1931 which was left to nature without any forestry operations for nearly 8 decades, since 1941 and rest of the area for nearly 5 decades.

The BTR is in the foot hills of Nilgiris with tropical climate, the average annual rainfall is about 625 mm from both the monsoons-SW & NE; and the mean annual temperature ranges from 22 - 27 degree Celsius but max goes up to 35 or more degree C in summer. The vegetations of the Bandipore TR- are dry deciduous scrub jungle and dry/ moist deciduous forests with edaphic variations from East to West on par with the variation in rain fall from Moyar to Gundre (210 mm- to 1040mm). The forests in 1970s were an open forests of dwarf trees with meadows and swamps with plenty of fodder resources in east to moist deciduous forests in the west as one of the most suitable habitats for herbivores like elephant, bison, sambar, chital, four horned antelope, barking deer and wild boars; those supported the predators like tiger, leopard, wild dog and hyenas with a host of other animals like sloth bear, reptiles, amphibians, fishes and about 250-300 spp. of birds in

By 1980s, the forests started showing all-round improvement with sufficient fodder due to better protection against cattle, smuggling and fires/ poaching. Exotic Lantana camara, Eupatorium odoratum and Parthenium hysterophorus made inroad in to the TR. Local weed species like 3 spp. of Desmodium, 2 spp. of Indigofera, Lea chinensis, wild Curcuma, etc. too crept in.

By 1990s; the vegetation further improved, exhibiting different stories of vegetation most liked by diverse animals in the TR. The regeneration of tree species, with lot of Kydia calycina, and Bamboo were liked by elephants; fodder sources was so conducive to rate Bandipore TR as one of the best habitats for wildlife

causing spurt in the population of wild animals.

By Y2Ks; The dawn of 21st century, the succession of vegetation started showing all the signs of 'climax' in the 'core area' of the TR- the stage of aged trees, lack of regeneration of tree species. The exotic weeds (Lantana, Eupatorium & Parthenium) became rampant and started occupying the forest floor giving no scope for the grasses to survive. But no efforts were made to tackle the issue of reduction in 'carrying capacity (CC)' of TR in terms of herbivores.

The spurt in population of wild animals increased the demand for better resources for food, water, shelter and space for spreading their genes. Animals started going out of the TR more frequently in search of food/water during pinch periods, creating more 'man-animal conflicts' (MAC). The BTR was cordoned with barriers-Elephant Proof Trench (EPT)/Solar fencing along its northern boundary abutting the human habitations for controlling MAC.

By Y2KXs: The vegetation in the tourism zone attained 'ecological succession to the stage of climatic climax (some experts call it secondary succession)'-culmination stage of succession or a stage of gray ie... absence of regeneration; bamboo too flowered and died. The result- accumulation of DWFL on the ground combined with thick mat of exotic weeds-a condition not allowing any regeneration of trees/movement of animals beneath it and became combustible fuel- inviting the fires to explode like volcanoes. The CC of the TR worsened posing threat for survival of herbivorous animals and their predators.

The success rate of animals/tigers sighting increased for the visitors in the tourism zone- since the tiger population went up and tigers started moving in the safari roads and in view lines as they found it difficult to move in the forests infested with thick mat of exotic weeds.

The sighting of tigers became regular/ spectacular for the tourists, profitable for the tour operators and a boost to the tourism. (E.g. The voting and award for BTR-as the best managed NP & tourism destination in India during 2020). But, this stage of climatic climax or secondary climax of vegetation with full of DWFL reduced the CC forcing the animals like-elephants to stray out of the TR which led for the farmer cry against it.... forcing the BTR to go for 'Old Rail Fence' (ORF) in addition to EPT to resolve MAC. With ORL, the elephants are caged against moving to northern side with option to move only towards eastern Nilgiris foot hills or westward to Kodagu-Western Ghats.

The Present Management Practices of BTR led for the following situations: There is no hope of natural regeneration in this condition of vegetation to renew its succession as there are no potential seeding trees and open forest floor for regenerations due to thick-mat of invasive exotic weeds.

The habitats will continue to deteriorate in terms of 'carrying capacity'- the ability to sustain animals with the passage of time and will force the diverse animals to migrate and cause MAC.

Habitats are with heaps of DWFL (dead trees & dead bamboo clumps & lantana bushes) waiting for ignition in summers to burn.

Fire is the only solution to clear the stage of gray or the vegetation of DWFL for further succession, since the vegetation is of hard woods and takes decades for deterioration to allow natural course of successions in vegetation.

Even after fires, natural regeneration of trees is a dream in the midst of weeds in BTR. In the event of fires, the exotic weeds, Parthenium will occupy the forest floor immediately, followed by Eupatorium and then by Lantana slowly.... some grasses may come in between weeds. Tree spp regenerations are rare

without artificial means into the burnt area except the revival of the root stock of some hard wood spp-provided the weeds permit them.

The above conditions of the BTR pose three major problems ie. Forest fires, reduction in CC and MAC.

The forest fires in BTR cause severe damage to the flora and fauna in addition to emitting enormous CO₂ to atmosphere and affecting quality/quantity of drinking water in the down streams.

Forest Fires: BTR suffered with wild fires during 2014, 2015 and worst fires in 2017 & in 2019; and there were fires in the earlier years too but were not so damaging since the TR was not in gray. Now, the fire protection measures are carried out with huge out lay with fire lines over 1,000 km, deployment of over 1,000 men (fire watchers including staff) for watching, guarding entry of miscreants, teams for firefighting with vehicles/ equipment and hired Fire Brigades with surveillance of Drones etc.

But the summer fires repeat in alternative years or so as natures' fury.

The findings of Departmental Commission of Enquiry against the fires of 2019 in BTR were- the lack of execution of fires lines in time before onset of fire season etc. But I wish to differ and suggest the following measures to put a check on the catastrophic problems of forest fires with available facilities in BTR or elsewhere for the consideration of the authorities in the 5th decade of the PAs management in India..... as follows...

- i. The existing fires line in BTR are 10 m wide (some 20 m wide) along the D'lines, forest roads, compartment lines, with check fire lines etc are maintained; but, most of them are curved lines
- ii. Summer fires in BTR run along the prevailing wind from east to west (EW) .As a result, the

curved and narrow fire lines created with huge cost fail to check the summer fires and all efforts go waste allowing fires to inflict injuries to flora and fauna and even to ill-fated staff as happened in 2017 at Kalkere (A Forest Guard was charred to death while fighting fires).

- iii. To address the hidden problems in fire lines-A change is suggested for managing forest fires as follows:

1. The fire lines on External D'lines-those form the boundary of the TR or PA are need to be maintained 10m wide.
2. The Internal D' lines between different RFs or forest blocks within the TRs or PAs should be reduced to 5m as they don't serve as fire lines.
3. The fire lines along roads to be maintained as they are necessary for visibility for the running vehicles without applying the effectiveness of their role as fire lines.
4. The curved or snake route fire lines have to be dispensed with and new Straight fire lines running East to West (EW) and North to South (NS) by dividing the TRs habitat in to blocks depending on the risk of fire hazards experienced in the past have to be laid out first on the map and then in the field with prismatic compass/GPS.
5. The EW straight fire lines of width not less than 15m at an interval of 5 to 10 km should be maintained to check the spread of fire towards north or south or in the middle of the PA if its NS width is less than 25 Kms
6. The NS straight fire lines width to be not less than 20 m laid at an interval of not more than 5 to 10 km should be maintained to check the fire running westwards.

7. The NS Straight Fire Breaks of 50 m or 60 m wide: To form 50 m or 60 m wide fire break (FB- a fire line of 10 m wide at Eastern side and 5m (or 10m) wide parallel line at Western side of the fire break should be laid out on the map and then on the field; the under growth cut and fire traced first in both the fire lines. Finally, the area in between these two parallel fire lines about 35m or 45 m (30m or 40m) wide line should be allowed to be run over by fire to form the 50 m or 60 m wide fire break.

The NS straight fire breaks should be at every 10 to 15 km interval or in the middle of the PA if its EW length is less than 30 km.

Advantages of Fire Break: The fire break will serve to checkmate the worst fires set by the miscreants. In case of emergency as in 2019 of BTR, the fire break will give adequate opportunity to checkmate the fires by planning/ executing counter fire from it to check the inferno advancing towards it with wind from east. They will serve as oasis for herbivores for foraging with flush of green in the early summer rains. Serve as shelter for animals from fires in summer. Serve as paths for staff on patrolling and census etc. and also for movement of elephants/tigers,

NB: In case of smaller blocks of PAs- there should be one BF in the center and a EW fire line at the center to crisscross in the center of the PAs so that these FB and EW fire line divide the PAs into 4 blocks to limit the accidental fires to a quarter of the PA for dousing.

8. Creation of Oasis: In worst fires like in 2019 which swept the forest floor for 6 days for nearly 20 km from Kundakere to Chammanahalla via HG Hills in BTR is a lesson to introspect

about the difficulty/death of small animals which cannot escape from the fires. The wildlife management principle tells that water holes have to be established within a cruising distance of 2 km from all points for the animals to fetch water for drinking in a PA. Which indicates that the small animals cannot cruise more than 2 km. Hence, it is necessary to create Oasis of fire free shelter for animals in the TRs or PAs prone for fires in this era of GM/climate change at a cruising distance not more than 5 Km.

For which lay out a plot of 1.00 sq.km in the center of fire hazardous block @ one in every 50 sq.km with a perennial water hole in it. Lay 5 m wide straight fire lines around it. Clear the under growth and weeds inside it every year in winter and fire trace or simply run over it by fire after forming its boundary fire line in winter without clearing the undergrowth to induce grass growth. Ensure no leaf litter accumulates in it with sweeping and fire tracing in summer so that animals can take shelter in case of worst fires. All animals except elephants/tiger will take shelter and it will accrue all benefits as listed in fire breaks.

9. Reduce DWFL wherever it is possible and do advance burning in patches in winter to reduce fire risks and take up control of exotic weeds - these acts will reduce the ill effects of fires on forest ecosystems, flora, fauna, atmosphere and drinking water resources.

Ref: Management Plan of BTR 1973, 1986, 20 Yrs. Review of BTR 1993, Ecodevelopment Plan of BTR 1996/ Glimpses of Indian Wildlife

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PODU CULTIVATION AND GOTTI KOYAS

By

M. Ram Mohan

One of the plaguing problems of Telangana forests is Podu cultivation. Since times immemorial, clearing of forests has been in vogue for agriculture purpose. When the forests were aplenty and the human populations were limited in number, the clearing of forests, deforestation, was not felt as is felt today. As the human populations burgeoned and dependency of the people on agriculture continued for livelihood, deforestation also continued unabated.

Though State Forest Department took measures to prevent deforestation, it has not been successful due to various reasons in Telangana. The clearing of large swathes of forests went unhindered in the areas where the Naxalite movement was widespread. The RoFR Act legalized the possession of cleared forest lands of podu cultivators who had had them before Dec. 13th, 2005. Clearing of forests for podu cultivation was continued even after enactment of RoFR act, as the people expected that the subsequent party, which come to power would bestow them rights on the lands. The political parties indulge in making poll promises of giving rights/pattas to podu lands, if they are voted to power, the situation which aggravated deforestation.

Another major reason for podu cultivation in Telangana is deforestation by Gotti Koyas. The Gotti Koyas are the Tribal people migrating to Telangana from Chhattisgarh for the last two decades and are spread in about 200 settlements in the forests of erstwhile Khammam and Warangal districts in Telangana and Godavari Districts in Andhra Pradesh along the Godavari belt. The genesis for the migration of Gotti Koyas lies in the raging conflict between Maoists and Salwa Judum in Chhattisgarh. As the constitution enshrines the right to freedom to move, reside and settle anywhere in the country, the Gotti Koyas are not prevented from entering

the Telangana state. As they are forest dwelling people, they choose large swathes of pristine forests with water source, far away from usual human settlements deeper inside the forests and establish settlements and start podu cultivation. They clear the forests alarmingly with an amazing speed. Cultivate wild variety of rice, maize and millets which are used as staple food. As they are good hunters, known for their acumen in hunting down animals with bow and arrow, indulge in indiscriminate hunting. No wildlife survives in the vicinity of their settlements! Gotti Koyas earn money by doing seasonal works in the nearby villages. Since they are very hard-working people, they are considered to be cheap labor and are engaged by villagers in agriculture and allied works and other civil works. They are even hired by some shrewd people for clearing of forests.

The Government machinery, except Forest Department, helps the Gotti Koyas in one way or the other by providing them facilities, roads, power supply, drinking water, education, health, etc. They are provided with ration cards, voter cards, Aadhar, etc. All the sympathies would be with Gotti Koyas, as they lead primitive life in jungles without basic amenities far away from civilized world. Media often highlights the plight of Gotti kKoyas but scantily gives due coverage to the damage done to the forests and wildlife by them. As the forests and wildlife are seriously affected by Gotti Koyas, the Forest Department considers their migration and presence as a major threat to forests and field personnel of the forest department feel perilous to their very jobs. Number of forest cases are registered and arrests made and tried in the court of law against them for clearing of forests and wildlife poaching. In some instances, the Gotti Koya settlements were evacuated

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THE PYGMY

By
V. V. Hari Prasad

He is part of hominoids,
And belongs to human race.
He is arrogant,
That he landed on the moon,
Invented atomic explosion,
And went beyond to Hydrogen bombs,
He possesses the nuclear weapons,
Which can annihilate entire human race,
Simply needing the press of the button.

He purportedly conquered the nature,
Discovered the genome.
As an expert in genetic engineering,
He could meddle with the genes,
He built supersonic jets,
He knew the marvels of technology,
He invented vaccine,
He extracted oil from bowels of earth.
His pride knew no bounds,
He became too big to his shoes,
He thought that he was a giant, and
The nature a Pygmy.

Pat came the reply,
And the nature decided,
To cut him to size.
Descends "CORONA" a microscopic virus
Brain child of a perverted genius?

Or a biological weapon that it is,
Hell bent on questioning his supremacy,
Began its onslaught undeterred.

WUHAN of China struck the bell,
For countless people it became a death knell,
And many more are on the death roll,
Not only in China, but all over the world.
His fight started with the invisible enemy,
Which is determined to show its prowess.
Being a tiny virus,
Part of an army of "The Nature",
The numbers of which stand,
Beyond the count of mundane resources.

He is caught unawares,
And begins to look hapless,
Having been scared and cut to size,
He realizes that,
He is but a speck in the Ocean "The nature".
He bows down before the nature,
Decides to tread the path of his ancestors,
Be they from Paleolithic or Neolithic ages,
Coming to a conclusion that,
He is bound to be part of the nature,
Not to be above the laws of nature,
and after all he is a pygmy before the giant.

(Dedicated to all those who are dead of COVID-19 being the scapegoats of human arrogance and supremacy of nature).

MY TENURE IN KAGHAZNAGAR DIVISION

By
M. RAJA RAMANA REDDY

INTRODUCTION: Kaghaznagar Forest Division is situated in the north-eastern part of the erstwhile Adilabad District, presently a part of newly constituted Kumurambheem Asifabad District of Telangana state bordering the state of Maharashtra. Rivers Pranahita and Wardha form the boundary of Kaghaznagar Division of Telangana State while Chandrapur and Allapally Divisions of Maharashtra State are on the other side of the rivers. Kaghaznagar Division has a forest area of 91,719 ha, which constitutes about 54% of the total geographical area of the Division. The Forests are mostly Southern Tropical Dry deciduous type with teak as dominant species. There are also patches of Dry Deciduous Scrub type forests.

Kaghaznagar Division forest is part of the Tiger corridor that connects 3 Tiger Reserves viz.,

Kawal Tiger Reserve of Telangana, Tadoba Tiger Reserve of Maharashtra, Indravati Tiger Reserve of Chhattisgarh and thus has rich biodiversity in flora and fauna.

- i) The division was carved out of the erstwhile Asifabad Forest division during 1965 and started functioning from 01-03-1965.
- ii) Kaghaznagar forest division derived its name from the location of the Sirpur paper mills and famous paper manufacturing unit.
- iii) The division lies between 19° 11' 30" and 19° 37' 30" north latitudes and 79° 22' 30" and 79° 59' 0" east longitudes.
- iv) The division lies in Zone No IV of Andhra Pradesh Agro-Climate Zones (Northern Telangana Zone.).

Geographical area of the Division	:	1,64,100 Ha.
Forest area of the Division	:	91,719.31 Ha.
% of Forest Area	:	55.9 %
No. of Vana Samrakshana Samithis	:	112 VSS
Forest Area allotted to VSS	:	45,335 Ha.
Area under encroachments	:	10,874 Ha.
No. of Ranges	:	4
No. of Sections	:	14
No. of Beats	:	39
No. of Compts.	:	245
No. of Forest Blocks	:	47
Notified u/s.15 as Reserve Forests	:	37
Notified u/s.4 as proposed RFs	:	07
Notified u/s 24. as protected forests	:	03

Kaghaznagar Division is spread over an area of 91,719.31 Ha. and is comprised of five Ranges viz., Kaghaznagar, Sirpur, Karjelly, Pencikalpet and Bejjur. The Division is within the Revenue Division namely, Asifabad and 7 Revenue Mandals i.e., Kaghaznagar, Sirpur, Koutala, Bejjur, Pencikalpet, Chinthalamanepally and partly of Dahegaon Mandal. The forest area of this division is about 1834.39 Kms, and is consists 37 Forest Blocks notified under different sections of Forest Act.

RANGES AND FOREST OFFICERS: When I took charge of Division, the following are the Range Officers in charge of Ranges mentioned below:

1. Kaghaznagar Range:
Smt. CH. Anitha, Forest Range Officer
2. Sirpur Range:
Sri. CH. Poornachandar, Forest Range Officer
3. Karjelly Range:
Sri N. Rajender, Forest Range Officer
4. Bejjur Range:
Sri. N. Kiran Kumar, Forest Range Officer
5. Penchikalpet Range:
Sri. G. Srinivas Reddy, Forest Range Officer

IDENTIFICATION OF SENSITIVE AREAS AND ROUTES FOR SMUGGLING: Immediately after taking charge as Forest Divisional Officer, Kaghaznagar on 16-07-2018, I conducted a meeting with the Range Officers and then started field visits and identified the sensitive areas and routes for smuggling of forest produce and for poaching. I asked the staff to be vigilant and control smuggling as well as poaching. After conducting field inspection in Kaghaznagar range, I have observed that the Forest Check-Post located at the entrance of Kaghaznagar town is not the right place as the forest produce illegally transported by smugglers choose other routes which are in the vicinity of their destination, that is Kaghaznagar town. I therefore immediately instructed the Range Officer, Kaghaznagar to shift the check post from the existing location at the entrance of Kaghaznagar town to Ankusapur Village, T-Junction which covered all the routes towards Kaghaznagar town. It is observed that at the new check post at Ankusapur, Kaghaznagar staff are able to check the vernacular traffic to and from more effectively.

By taking the above decision and implementing them strictly the transportation of forest produce illegally by the smugglers was brought under control within

a short span of time. By intensive checking by the staff round the clock at the check post, smuggling of forest produce is completely stopped. This is one of my achievements to check smuggling of forest produce.

2.IDENTIFICATION OF NOTORIOUS VILLAGES - CHINTHAGUDA OF KAGHAZNAGAR MANDAL IN KAGHAZNAGAR RANGE: Chinthaguda is one of the notorious villages known for teak timber smuggling. The village is within the jurisdiction of Vempally Beat under Vempally Section. The villagers are become professional smugglers since last 35 to 40 years.

With a view to tackle the situation, I have conducted meeting with Range Officer Kaghaznagar along with the range staff on 01-09-2018 for evolving a strategy of putting an end to smuggling in Chinthaguda village and planned to conduct raids. Accordingly, on the next day i.e., on 02-09-2018, I along with the Range Officer, Kaghaznagar and the staff with the help of police officials raided the village during early hours and recovered huge quantity of Teak timber 281 logs / 2.274 Cmt. and Non-teak timber 2 logs/0.117 Cmt. and transported the same to Govt. Timber Depot at Vempally. Further on reliable information regarding illegal carpentry works in Chinthaguda village proceeded to Chinthaguda village on 02-01-2019 along with the Range Officers Kaghaznagar and Sirpur and their staff and seized 2 Nos of Duggoda machines and timber valued at Rs.10,000/- and transported the seized articles along with forest produce to Govt. Timber Depot at Vempally for safe custody of the seized property.

After the above raids the villagers of Chinthaguda met me several times and they represented that their livelihood is completely dependent on smuggling and making of furniture and selling the furniture. They stated further that, there is no other source of living and feeding their families; if it is stopped, they will die of starvation.

After conducting raids in villages of Chinthaguda and seizer of timber, I have conducted an awareness programme regarding value of forest to the humans as well as to the globe and also explained the risk factors which are being faced by the humans now due to degradation of forest and its impact to the ecology and tried to convince them in various levels. Then the villagers of Chinthaguda promised to me that they will not enter into the forest to collect the forest produce illegally and they were advised to buy their requirements of wood in Govt. authorized timber depots and with that forest produce they wish to make to the furniture and by selling the furniture they wish to continue their lively hood without any obstacles as they completely depend on only making the carpentry works. But I have explained to the villagers of Chinthaguda that as per the Wood Based Industries (Regulation) Rules, 2016 there is no authorization to install the carpentry workshops in Kaghaznagar town. But their families approached me and explained their tale of woes regarding financial crisis due to stoppage of carpentry works.

On humanitarian grounds, I allowed the villagers of Chinthaguda whose livelihood is completely dependent on carpentry work, to maintain their families by legal means adopting timber business by procuring timber from Maharashtra, through Transit permits. As for illegal activity we encouraged some people so act as informers and issued instructions to the Range Officer, Kaghaznagar and staff to monitor the activities of the villagers. I also visited a number of times to Chinthaguda village and then Several times the Vigilance and Enforcement and Vigilance team Hyderabad had also inspected during their tours. No incidents of objectionable nature were noticed.

Cancellation of Venkateshwara Saw Mill License at Kaghaznagar Town: Whereas an Offence case has been registered vide P.O.R No.1910/77, Dt.27.09.2018 by the staff of Forest Check Post,

Asifabad of Asifabad Forest Division involved vehicle TATA Van Bearing No. TS-01UB-5212 along with Forest Produce Teak Round Logs 15/1.690 Cmt. Value: Rs 1,36,775/- and Teak Rough Sizes 11/0.820 Cmt. Value Rs: 78,924/- against Sri Mamidala Ramakrishana, Owner of M/s. Sri Venkateshwara Saw Mill and Timber Depot Kaghaznagar of Kaghaznagar Range of Kaghaznagar Division.

Upon revealed of the facts of the aforesaid case for the following points are shown hereunder.

- 1) That G. Maralu driver of Mini Tata Van Bearing No. TS01UB 5212 (Tata 709 Mini Van) was working as driver since last five Months.
- 2) The owner of the vehicle is Sri. Mamidala RamaKrishna S/o M.Malleswar R/o Kagaznagar.
- 3) The owner of the vehicle Sri M. Ramakrishna is also the owner of M/s Sri Venkateshwara Sawmill and Timber Depot, Kaghaznagar.
- 4) The driver in his confession Statement revealed that on 26.09.2018 he was directed by his owner to go to Jainoor and get timber from nearby forest of Jainoor. During night at about 10.00 P.M four (4) persons met the driver at Jainoor and loaded the timber in the van at the Spot which is 12 Kms from Jainoor they loaded the timber in the van.
- 5) The driver also revealed that, he has transported one load earlier to the same sawmill i.e., Sri Venkateshwara Sawmill and Timber Depot Kaghaznagar as per the directions of the owner (owner of the vehicle and sawmill) the van Covering with black tarpaulin the vehicle Started towards Kaghaznagar and was stopped at Check post, Asifabad and caught red handed without having any valid documents, involving in illegal transportation of Teak Timber.
- 6) The details of Teak Timber now in the Seized van is as hereunder:

- 1) Teak Round Logs 15/1.690 Cmt Value: Rs 1,36,775/-
- 2) Teak Rough Sizes 11/0.820 Cmt Value: Rs: 78,924/-

In view of the above, it has been noticed that, Sri Mamidala Ramakrishna, Owner of M/s. Sri Venkateshwara Saw Mill and Timber Depot Kaghaznagar of Kaghaznagar Range of Kaghaznagar Division has violated the Telangana State Forest Act, 1967 and Telangana Wood Based Industries (Reg.) Rules, 2016.

Accordingly, a show cause, notice has been issued vide reference 5th cited.

Having acknowledged the Show Cause Notice, the Saw Mill Owner has submitted his explanation vide referenced 6th cited above stating that, the TATA Van bearing No. TS01-UB-5212 is his own vehicle and the driver Sri G. Maralu has quarreled with him on 26.09.2018 and taken away the vehicle without his notice and he is not aware regarding the transportation of illegal material through TATA Van bearing No. TS01-UB-5212 on 27.09.2018 and requested to drop further action in this case.

Up on perusal of written statement given by the owner of vehicle involved in offence case and to the owner of M/s Sri Venkateshwara Sawmill Timber Depot, Kaghaznagar the undersigned has called for subsequent enquiry duly inviting the Driver of vehicle involved in aforesaid offence case namely Sri G. Maralu R/o Kaghaznagar as the name is mentioned in the written statement by the said owner and also owner of the vehicle vide reference 7th cited.

On enquiry with the vehicle driver involved in aforesaid offence case namely Sri G. Maralu S/o Pocham R/o Kaghaznagar on dated 05.01.2019 deposed his written statement and stated that, he was engaged as a driver on daily wage basis to vehicle TATA van bearing No TS01UB 5212 and as

per the instructions of Vehicle owner Sri M. Rama Krishna owner of M/s Sri Venkateshwara Sawmill & Timber Depot, Kaghaznagar he have proceeded to Jainoor village siwar and he met one unknown person there then accompanied with him went to inside the forest, at there (3) Nos. unknown persons loaded the teak timber into the vehicle. While coming towards Kaghaznagar in the early hours the vehicle was caught by the forest officials at Forest Check post, Asifabad.

I have gone through the following merits of the case with reference to the written statements given on dated 24.12.2018 and 05.01.2019 by the aforesaid Saw Mill owner and driver of the vehicle involved in offence case registered by the Forest Officials at Forest Check Post of Asifabad Forest Division vide P.O.R No. 1910/77, Dt.27.09.2018 against the Sri Mamidala Ramakrishana, Owner of M/s. Sree Venkateshwara Saw Mill and Timber Depot Kaghaznagar as A1 and A2 driver Sri. G. Maralu S/o Pocham R/o Kaghaznagar and concluded that,

- 1) On discreet enquiry conducted by the under signed with Vehicle owner and vehicle Driver (TATA VAN Vehicle No. TS01-UB- 5212) on 05-01-2019, there is a prima facie against the Saw Mill owner i.e. Sri Mamidala Ramakrishana, Owner of M/s. Sri Venkateshwara Saw Mill and Timber Depot Kaghaznagar of Kaghaznagar Range of Kaghaznagar Division who was involved in carrying of illegal transportation of Teak timber in forest offence case vide POR NO.1910/77 dated 27-09-2018.
- 2) As per the enquiry made by Forest Range Officer Kaghaznagar the owner of saw mill was sent the vehicle for transportation of illegal teak timber near Jainoor to his saw mill M/s. Sri Venkateshwara Saw Mill and Timber Depot Kaghaznagar and the same is owned by the Sri M. Ramakrishna is also clearly established.

- 3) A reasonable opportunity also being given and heard before the under signed and it is found that a clear violation of law has been committed by the saw mill owner Sri M. Ramakrishna M/s. Sri Venkateshwara Saw Mill and Timber Depot Kaghaznagar as per provisions of Telangana State Forest Act, 1967 and a case was registered against the saw mill owner Sri M. Ramakrishna vide POR NO.1910/77 dated 27-09-2018 by Asifabad Forest Check Post Staff of Asifabad Forest Division.

Hence the following order is passed by me.

ORDER: In exercise of the powers conferred as licensing authority under Rule 11 (2) of TELANGANA WOOD BASED INDUSTRIES (Reg.) Rules, 2016 read with as per section 20,29 & 44(1)(2) of Telangana State Forest Act, 1967 and rules there under, the Saw Mill license of M/s. Sri Venkateshwara Saw Mill and Timber Depot Kaghaznagar is hereby cancelled and seized together with whole plant, machinery, implements and equipment.

With my initiative and innovative works and seizure of above sawmill Teak timber smuggling was completely stopped.

2. DETECTING AND CONTROLLING POACHING OF WILD ANIMALS:

Kaghaznagar division is having rich bio-diversity having flora and fauna and it is a suitable place for sustaining of endangered species. While perambulating in the Reserve Forests of Kaghaznagar division it was noticed that poaching is resorted to by employing active and ingenious methods by using snares and electric wires to kill wild animals. Then immediately conducted range level meetings and identified the areas susceptible for poaching and poachers mainly are suspected from Chinchupally, Agarguda, Dabba, Audepally, Bupalapatnam, Gundepally and Areguda, started raids in these villages and collected material which is being used for poaching and sent them to Court

by registering cases under Wild Life Protection Act-1972. Besides, I have conducted awareness programmes at various levels and organized cultural activities by organizing tournaments in the villages among the youth and essay writing competitions in schools on World Tiger Day and also Vulture day and A.V-Aids activities and making tom-tom in villages regarding tiger movement and by making payment of compensation whenever cattle died due to attack of wild animals without any undue delay. Owing to this change brought about, the villagers were giving information from time to time to the Forest Officers regarding poaching activities and smuggling and participated in protection of Wild Life.

With a view to intensify the protection of wildlife, particularly in the corridors of Tiger's movement, my staff and I used to make constant patrolling. While making an inspection, I came across a religious structure, which attracted a considerable number of pilgrims right in the middle of the forest. This structure and the movement of human population was a source of disturbance to the tigers. The structure was dismantled tactfully in a peaceful manner without disturbing the sentiments of the people around. This is almost like a surgical strike, conducted during the midnight of 19th / 20th of March, 2019.

3. MENACING PROBLEM OF ENCROACHMENTS – RETRIEVAL OF GONDI BEAT FOREST:

Encroachment into forest lands is a menace in this division and had been rampant. Eviction and reclaiming of encroached lands is a hard task. Retrieval of encroachment in Gondi Beat is unique.

Gondi beat forest within the jurisdiction of Kaghaznagar Range has an area of 1739.31 ha, and is covered with dense forest and rich biodiversity. In the said beat forest, one Tribal family made an illegal ingress first in the year 2013 and the number of families increased to (16) families belonging to Kolam

and Gond sect of the tribals. Having trespassed into the forest, they have raised huts and in so doing they received encouragement and support of local politicians who have their own oblique motives of gaining popularity. The concerned forest officials earlier enquired with the trespassers and warned them of the consequences of their unauthorized and illegal activity of encroaching on forest land. On further enquiry, the encroachers stated without substance that they have migrated from Wankdi side and started living in this forest since about 50 years. As a matter of fact, there was no habitation and no farming activity in the area until present the trespassers started encroaching on the forest land during the year 2013. The forest staff tried to persuade the encroachers to quit the area within one month, failing which they were told that the law will take its own course to evict them.

As the encroachers did not heed to the warning of the staff, an offence was booked against the culprits vide P.O.R. NO.1401/29 dated. 31.05.2019. While the staff was making effort to evict the existing encroachers, some more persons have clandestinely entered the forests and erected shacks (temporary huts). The Panchanama dated 31.05.2019 and the photographs of encroachment were taken.

Forest Range Officer, Kaghaznagar, Smt. Ch. Anitha, inspected the Gondi beat forest in the month of July-2018 and perused all previous records pertaining to this case and reported the facts to me. I also made a detailed inspection of the area along with the Range Officer. She repeatedly warned the encroachers to leave the area as it is a forest land and forms a Tiger

Corridor for the Tigress Phalguna. It was made clear to them that they have no right or title over the land and that they are not entitled to any grant from the Government.

LEGAL STATUS OF THE LAND ENCROACHED: On scrutiny of record it is revealed that the encroached area falls under Garlapet Forest Block in Compt. No. 66. Garlapet Forest Block with an area of Ac.42,377 was notified under Section 7 of the Hyderabad Forest Act, 1326 Fasli and the notification is published in the Government Gazette dated 26th Aban 1354 Fasli. By virtue of the notification the area of Garla Block becomes 'forest' as defined in Section 2 of the Forest Conservation Act read with the judgment of the Supreme Court. Under the provisions of the said Act, no forest land can be diverted for non-forest use without the prior permission of the Government of India. There was no proposal of the State Government seeking permission of the Government of India favoring the encroachers. The encroachers are also not eligible for grant of certificate of occupation under the Forest Rights Act. The boundaries of the Forest Block are clearly demarcated on the ground with reference to gazette notification and no patta certificates were issued in the said Forest Block. In fact, granting patta in the Forest Block is prohibited after publication of the notification in the Gazette.

According to the Working Plan for Kaghaznagar Division for the period from 2013 -'14 to 2022 - '23, as approved by the Government of India in March 2015, the area where encroachment is attempted is included under Bamboo working Circle.

*It is health that is real wealth and
not pieces of gold and silver.*

(Mahatma Gandhi)

FALCONS OVER HYDERABAD, TELANGANA

By

Dr. Sudhir K. Reddy

The following is the story of a peregrine falcon pair stealing the show at the crack of dawn on the leap year day of 29 February 2020. This is a result of all the excitement and a detailed account of a photo safari, via photos, discussions and video footages from around 5:30 to about 9:30AM between at least three individuals:

1) The author, Sudhir Reddy, a wildlife enthusiast and an amateur naturalist but more importantly, an ardent observer of Peregrine Falcons in three countries, namely Canada, the United States and India, over the past three decades spanning from the early 1980s to the present day in 2020.

2) Ravishankar Akella, a retired IT professional from London, England, who discovered the joys of Nature photography in India, whether it is a Tiger Safari in Pench, Tippiwar or Tadoba National Park or birdwatching in the suburbs of Hyderabad.

3) Last but not the least, Telangana Today's own Staff photographer, Anand Dharmana.

Telangana today as a state, attracted visitors from all over India and from around the globe, this week and the whole month of February. May it be a conference on Drug Discovery, Computing Applications or International Flora Expo, to name just a few. Foreigners and the domestic travelers from various states met in Hyderabad this week. these meetings are not too uncommon to be hosted in major cities of India, whereas a different group of foreigners also arrived in the Greater Hyderabad area. These visitors, on one hand are the very unique winged wonders of the Falcon family and on the other hand, the wildlife enthusiasts who admire the beauty of these birds.

Among the foreigners visiting our state of Telangana are not just humans but also the fastest birds on the planet called Peregrine Falcons (*Falco peregrinus*). The word "peregrine" in Latin means "wanderer" or "foreigners". These birds seemingly have a new favorite hang-out in Hyderabad. And so, the other breed of visitors who gathered today in and around Osman Sagar, drove their own vehicles, peering through binoculars and carrying long lenses and photography gear, all craving to catch a glimpse of peregrine falcons. These visitors included a score of eager photographers traveling from as far as London, England, New Delhi, Punjab, Raipur, Chennai and Bengaluru. Dressed mostly in their camouflaged clothes, they congregated at various places in the very large tank bed, all of them with one objective on their minds, at the break of dawn. And that is "they all hoped to see this special species of falcons", migrating through Hyderabad from far-away lands.

What makes these peregrine falcons the most attractive among the avifauna of the planet is the fact that they have been known to fly and dive at speeds of up to 390 km/hour. These birds of prey are fierce hunters, known to have been almost extinct due to the extensive use of DDT, a pesticide responsible for thinning of egg shells. DDT therefore affected the reproductive cycle of birds especially at the top of food chain, namely the raptors or the apex predators such as Eagles, Ospreys and Falcons. This toxic pesticide has been completely banned for over forty years in the United States of America and Europe. Today, due to various conservation measures taken in several countries, populations of these birds rebound and no longer considered a "threatened species."

Peregrine falcons are large crow-sized birds with slate-grey backs, barred breasts and a black head. The body length is between 1 to 2 feet, with a wingspan of 2.5 to 4 feet. Both male and female birds look alike although the males are around 30% smaller than the females. As formidable hunters, peregrine falcons also referred to as Duck Hawks in North America, prey upon various species including waterfowl, migratory and resident medium-sized birds. They can be highly protective of their territories during breeding seasons and are known to kill other raptors larger than themselves such as Cooper's Hawks in the United States.

During the entire month of February, birdwatchers and nature photographers have been fortunate to

enjoy watching and recorded their hunts of pigeons and parakeets in Hyderabad area. While with their prey, these birds tend to be very focused on feeding and until they devour their delicious catch of the day, they make excellent subjects for wildlife photography. What a joy it has been for the bird lovers of Hyderabad to shoot pictures of these fascinating falcons!

The author, Dr. Sudhir K. Reddy, BVSc&AH, M.VetSci, PhD, originally from Hyderabad is a Veterinarian & Scientist in Vaccinology, Freelance Writer, Nature Photographer, and Independent Consultant on topics of Human and Animal Health, as well as Global Nature Conservation Initiatives. He is currently based in Michigan, a mid-western part of the United States of America.

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and the people were sent back to Chhattisgarh, but in vain. They are again coming back to Telangana forests, as they fear for their life citing the conflict in Chhattisgarh and reoccupying the same areas or occupy even other areas by clearing the forests afresh. For facilitating safe evacuation from forests and effective prevention of recurring of formation of Gotti Koya habitations, Police help is also taken by the Forest department in some instances. Since the conflict that caused migration of Gotti Koyas involves extremist element, keeping law and order in view, the Police choose to be cordial with the Gotti Koyas.

Civil rights activists, political parties make furor over the issue of evacuation of Gotti Koyas from forest areas. The instances of forcible eviction from forest areas drew flak from activists of civil liberties, adivasis, NGOs. The issue was raised in many a forum, even in the State Assembly. Forest Department is depicted in bad light as the issue involves human rights also. Public Interest Litigation was filed in the High Court against the acts of the Forest Department. The High Court directed the Government not to evict the Gotti Koyas and observed that living in Sanctuary areas

is not prohibited. Forest Department faces piquant situation, caught between the devil and the deep sea, in case of eviction of Gotti Koyas from forests.

Concerted efforts are also made by the Forest department involving the District administration to relocate the Gotti Koyas to the nearby villages but all the exercise went futile, as the Gotti Koyas are averse to the idea of living along with mainstream society. Since all the efforts are exhausted in protecting the forests and wildlife from the Gotti Koyas, the only and the best solution would be to relocate and rehabilitate them to their home state with active intervention of the Chhattisgarh government. Recent news reports also state that rehabilitation plans are being worked out with due consultations with the Centre. If the reports are true and the Gotti Koyas are convinced to return home, that augurs well to the Gotti Koyas themselves and chiefly to the forests and wildlife of Telangana State and it would also be an immense relief to the State Forest Department. Gotti Koyas do not hesitate to return to their home state, if the normalcy is restored which is to be ensured by the State government concerned.

News and Notes

Global warming: De-carbonising global economy to avert climate change:

The World Economic Forum (WEF) in Davos and the Conference of the Parties (COP25) in Madrid ended with an inconclusive deadlock on Climate Change. In the last 2 months, two of the most venerated multilateral forums floundered, adding to the growing list of malfunctioning multilateral meetings to solve Climate Change. The rise in CO₂ emissions is causing an irreversible change in our environment. Considering this, the WEF 2020 was focused on sustainability rather than conventional economic growth. Coincidentally, the backdrop of the WEF was the Australian bushfires, causing gargantuan damage and killing 1.25 billion animals. Unfortunately, even the fires were unable to stoke the compassion for the ongoing Climate Crisis. The level of insincerity towards Climate Change is beyond any measure of rationality overlooking the threat to our future. We are at an epochal moment, where we can reboot our future by weaning off carbon-based fuels and progress towards a Decarbonised economy.

Unfortunately, despite the threats, the CO₂ emissions are increasing, China alone accounted for 29% of the Global CO₂ emissions a year after the Paris agreement in 2016, followed by the USA and India with 16% and 7 %, respectively. The rise in emissions by the world's biggest countries jeopardizes the efforts to a safe and sustainable carbon-neutral future. In this regard, Costa Rica, a small Central American country has embarked on an altruistic mission to a zero- emission economy by 2050 through its Decarbonisation Plan. The European Union has also passed the Euro Green Deal committing to zero emissions and by further modernizing its economy. The road to Carbon- neutrality begins with the shunning off archaic practices from the

industrial revolution and embracing fossil-fuel-free technologies which are plenty as of now. Burning fossil fuels releases Carbon Dioxide; a Greenhouse gas (GHG), thereby heating the atmosphere and causing Global Warming.

The primary greenhouse gases in Earth's atmosphere are water vapour (H₂O), carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and ozone (O₃), out of these the CO₂ is the most harmful because of its propensity to hold heat for a longer duration. Thus, excess CO₂ emissions cause global warming by increasing global temperature. The most recent impact of the increase in global temperatures are the heat waves in Europe, bush fires in Australia, California, Amazon forest, Cyclones in south Asia, melting of glaciers in the Arctic, and erosion of coastal lands around the world. Natural calamities in environment engender more harms, for instance, loss of habitat, (threat) extinction of species, infrastructure damage, and increase in the ocean acidity damaging corals.

The scientific community unanimously agrees to the effects of Climate Change and has also formulated indicators defining 'damage levels' to be caused by the rise in temperature. The first damage to be caused with a 1°C rise in temperature will be the coral reefs, food systems, and the disappearance of small glaciers. Furthermore, with a rise in 2°C, agriculture yields will be sporadic, forest fires, droughts, flooding, heat waves will increase causing a significant decrease in water levels in the Mediterranean and Southern Africa. The rapid increase in temperature in the last five decades gives us little room for further warming, therefore a rise in 1.5°C is the threshold. However, the Paris agreement sets a precarious limit of 2° C making us

vulnerable to rising sea levels affecting half of the world's population settled on Coasts. As of now, as per the Climate Action Tracker, India, Costa Rica, Ethiopia, Bhutan, and the Philippines, and are the only countries complying with the 'under 2°C' target. This means that 190 countries out of 195 are not complying with the Paris agreement consequently, not reducing their emissions. The success of the Paris agreement is essential to save us from the scourge of climate disaster. Unfortunately, the Paris agreement has been mired in petty politics, with no insistence on Decarbonisation of economies.

The advantage of Economic Decarbonisation is that it intertwines with the modernization of all industries. Excessive dependence on fossil fuels does more damage than good, it may guarantee temporary energy security but the side-effects are way too disastrous to continue using this as 'energy- steroids'. Modern technologies allow us to maintain our energy security while maintaining the health of the population and the environment. The need for economic development while using fossil fuels is an argument used by several developing countries. However, this myopic vision overlooks the fact that instead of using a 'short cut' fuel and damaging the environment permanently, more focus needs to be given on renewable energy sources during a nation's development stage. This will help developing countries evolve as more sustainable economies with a healthier population. Therefore, priority should be given to increasing forest covers, promotion of efficient agro-food systems, developing integrated waste management systems, and a transformation of mobility with a significant focus on public transportation systems. All these measures are no more theories; they are economically viable alternatives which need to be mainstreamed to combat global warming. Most importantly, trust in multilateralism needs to be re-invigorated and global checks and balances should be implemented for the

reduction of carbon emissions. The only way forward is by making structural changes that will cause temporary suffering nonetheless will guarantee permanent survival.

Air pollution in Delhi-NCR: We are worried for future, says SC: New Delhi, Mar 6 (PTI) 'We are worried for future', the Supreme Court said on Friday, asking the municipal corporations and other agencies in Delhi to consider purchasing BS-VI compliant diesel vehicles for their respective works to reduce pollution.

A bench of justices Arun Mishra and Deepak Gupta said this while hearing a plea filed by the East Delhi Municipal Corporation (EDMC), seeking permission to allow registration of several diesel vehicles of 2000cc capacity and above to carry out solid waste management.

'We are worried for future. It is not for today,' the bench said, referring to the menace of pollution in the Delhi-National Capital Region.

Solicitor General Tushar Mehta, appearing for EDMC, told the bench that vehicles required by the civic body for solid waste management were available in diesel variant as the power needed for these vehicles can be generated only by diesel fuel.

'Next in future, you will have to buy BS-VI compliant vehicles. Once BS-VI will come into play, the pollution from diesel vehicles will reduce,' the bench said.

Mehta said these vehicles were required for essential services only.

The bench was informed that other agencies, including civic bodies, also needed new diesel vehicles to carry out their works.

The bench sought a chart of the number of vehicles needed along with its particulars and posted the matter for hearing on March 16.

During the hearing, the bench asked, 'Instead of going for BS-VI variant, why do you want to go for BS-IV variant vehicles?' One of the counsels appearing in the matter said the vehicles needed by the civic bodies are so far available in BS-IV variant only.

The bench also dealt with the issue of installation of smog towers, being designed as large-scale air purifiers to reduce air pollution, in the national capital.

In January this year, the court had given three months to the Centre and the Delhi government for the pilot project of setting up smog towers at Connaught Place and Anand Vihar here.

During the hearing on Friday, Additional Solicitor General A N S Nadkarni told the bench that the apex court had given three months' time for setting up smog towers but the Indian Institute of Technology (IIT), which is assisting authorities in the project, has said it required around 10 months.

The counsel appearing for the Delhi government also said they require time till August-September this year to set up smog towers.

The bench has posted the matter for hearing on March 27.

These issues have cropped up before the top court which is hearing a matter related to air-pollution in the Delhi-NCR. PTI ABA DPB.

Tropical forests' capacity to absorb carbon is diminishing fast, a new study finds: - Tropical forests are capturing less and less of carbon dioxide from the atmosphere, thereby significantly reducing their capacity to act as 'carbon sinks', and this could have a serious impact on the global efforts to fight climate change, a study found.

The international study was conducted by dozens of

researchers and was featured on the cover of the current edition of the journal Nature.

One of the study's authors, University of Toronto's Sean Thomas, who is a professor of forestry at the John H. Daniels Faculty of Architecture, Landscape, and Design, has found out that "intact tropical forests have been offsetting global carbon dioxide emissions, [but] that's going to go away".

Through his experiments, in what is now the Democratic Republic of Congo (DRC), in the mid-1990s, Thomas had assisted in establishing nearly four 10-hectare research plots in the Ituri Rainforest in the region. This dense forest, home to small forest antelope, monkeys, and the occasional zebra-striped okapi, served as living laboratories that, a quarter century later, yielded key data for the global study led by researchers at the University of Leeds.

Study authors, using tree measurements from Thomas' research forests in DRC combined with similar measurements from several other tropical forests in South America and Africa, have concluded that the absorption capacity of tropical forests are decreasing and reaching a saturation point where they can no longer absorb and will only release back carbon once the trees die.

To elaborate more on the findings, Thomas and study researchers have said that "intact tropical forests – that is, those that haven't been logged or otherwise commercially exploited – absorbed only about six per cent of man-made carbon emissions by the 2010s. That's compared to 17 per cent in the 1990s."

"That makes the problem of achieving the goals of the Paris Accord and stabilising temperature increases much more difficult," said Thomas. The study further states that over a period of time, the forests' capacity to "remove carbon will keep declining in the future".

In simple terms, tropical forests' ability to capture carbon has already passed its peak. These forests, in the words of environmental scientists, are increasingly becoming "carbon saturated".

The logic behind trees serving as carbon sinks is this: Trees absorb carbon by absorbing carbon dioxide from the atmosphere and this goes through a process of chemical transformation via photosynthesis, and converts it into the complex sugars that fuel tree growth. But when a tree dies, the exact opposite takes place: it releases carbon back into the atmosphere as it decomposes.

This study essentially upends the long-held assumption by scientists that tropical forests which are wholly intact are absorbing more carbon than they're releasing, essentially cleansing the environment of human-induced pollutants.

But Thomas and his co-authors have now concluded that this positive process is not happening anymore in South America and Africa as many trees are dying. They say climate change is likely to blame, while not completely. This is decreasing the tropical forests' capacity to absorb more carbon than they produce.

What's more worrying, Thomas opines, is that the "amount of carbon released into the environment from decaying plants will be greater than the amount of carbon absorbed by living plants".

"That point of diminishing returns has been thought to be not for a long while, maybe 100 years away," he says. "Now we know that it's already here, or imminent."

Polar ice caps melting six times faster than in 1990s: Polar ice caps melting six times faster than in 1990s. The polar ice caps are melting six times faster than in the 1990s, according to the most complete analysis to date. The ice loss from Greenland and

Antarctica is tracking the worst-case climate warming scenario set out by the Intergovernmental Panel on Climate Change (IPCC), scientists say. Without rapid cuts to carbon emissions the analysis indicates there could be a rise in sea levels that would leave 400 million people exposed to coastal flooding each year by the end of the century.

Rising sea levels are the one of the most damaging long-term impacts of the climate crisis, and the contribution of Greenland and Antarctica is accelerating. The new analysis updates and combines recent studies of the ice masses and predicts that 2019 will prove to have been a record-breaking year when the most recent data is processed.

The previous peak year for Greenland and Antarctic ice melting was 2010, after a natural climate cycle led to a run of very hot summers. But the Arctic heatwave of 2019 means it is nearly certain that more ice was lost last year.

The average annual loss of ice from Greenland and Antarctica in the 2010s was 475bn tonnes – six times greater than the 81bn tonnes a year lost in the 1990s. In total the two ice caps lost 6.4tn tonnes of ice from 1992 to 2017, with melting in Greenland responsible for 60% of that figure.

Greenland and Antarctica ice mass loss

The IPCC's most recent mid-range prediction for global sea level rise in 2100 is 53cm. But the new analysis suggests that if current trends continue the oceans will rise by an additional 17cm.

"Every centimetre of sea level rise leads to coastal flooding and coastal erosion, disrupting people's lives around the planet," said Prof Andrew Shepherd, of the University of Leeds. He said the extra 17cm would mean the number of exposed to coastal

flooding each year rising from 360 million to 400 million. "These are not unlikely events with small impacts," he said. "They are already under way and will be devastating for coastal communities."

Erik Ivins, of Nasa's Jet Propulsion Laboratory, in California, who led the assessment with Shepherd, said the lost ice was a clear sign of global heating. "The satellite measurements provide prima facie, rather irrefutable, evidence," he said.

Almost all the ice loss from Antarctica and half of that from Greenland arose from warming oceans melting the glaciers that flow from the ice caps. This causes glacial flow to speed up, dumping more icebergs into the ocean. The remainder of Greenland's ice losses are caused by hotter air temperatures that melt the surface of the ice sheet.

The combined analysis was carried out by a team of 89 scientists from 50 international organisations, who combined the findings of 26 ice surveys. It included data from 11 satellite missions that tracked the ice sheets' changing volume, speed of flow and mass.

About a third of the total sea level rise now comes from Greenland and Antarctic ice loss. Just under

half comes from the thermal expansion of warming ocean water and a fifth from other smaller glaciers. But the latter sources are not accelerating, unlike in Greenland and Antarctica.

Shepherd said the ice caps had been slow to respond to human-caused global heating. Greenland and especially Antarctica were quite stable at the start of the 1990s despite decades of a warming climate.

Shepherd said it took about 30 years for the ice caps to react. Now that they had a further 30 years of melting was inevitable, even if emissions were halted today. Nonetheless, he said, urgent carbon emissions cuts were vital. "We can offset some of that [sea level rise] if we stop heating the planet."

The IPCC is in the process of producing a new global climate report and its lead author, Prof Guðfinna Aðalgeirsdóttir, of the University of Iceland, said: "The reconciled estimate of Greenland and Antarctic ice loss is timely."

She said she also saw increased losses from Iceland's ice caps last year. "Summer 2019 was very warm in this region."

Continuation from page No. 58

2. State of Karnataka Vs. K. Krishnan: (2002) 7 SCC 80.
3. DFO and anr Vs. G.V. Sudhakar Rao; (1985) 4 SCC 573.
4. State of West Bengal Vs. Gopal Sarkar: (2002) 1 SCC 495.

From the statutory provisions and the analysis of case law, the position that emerges is that the Learned Magistrate and the Learned Sessions Judge were right in holding that on facts and in the

circumstances of the case, it is the Authorized Officer who is vested with the power to pass order of interim custody of the vehicle and not the Magistrate.

Reference was made to Art. 141 of the Constitution of India according to which law declared by Supreme Court is binding on all courts within the territory of India.

In the result, the criminal miscellaneous petition was dismissed on September 21, 2017.

SOURCE; Internet.

K.B.R.

LEGAL NOTES

Pramod Kumar Vs. State of Bihar

A truck bearing Registration No. BR 3355 was intercepted by forest officers at Dehri Gamman Bridge as it was alleged to be carrying illegally 700 C.ft. of Stone chips mined from Fazilpur Reserved Forest. The vehicle and stone chips were seized and a report was made to the Sub-Divisional Judicial Magistrate on 17.05.2016.

The DFO Sasaran initiated simultaneously confiscation proceedings on 12.07.2016 in Confiscation Case No. 152 /2016. The truck owner desired to get the release of the vehicle and therefore filed a petition before the Magistrate. The Magistrate rejected the petition. Having failed to secure release of the vehicle from the Magistrate's Court, he approached the Sessions Court. The Court of Sessions Judge also dismissed the petition. He then, approached the High Court at Patna by filing a Crl. M.P. No. 45284 of 2016 under Section 482 Cr. P.C and requested the court to pass order directing release of the vehicle. The matter was posted before the Hon'ble Justice Ashwani Kumar.

The learned Counsel for the petitioner submitted to the court that the owner of the vehicle runs the truck on hire and it is the only source of livelihood. The stone chips under transport did not belong to any forest area but was taken from Sonebhadra in U.P. Royalty was paid for the material and the truck was on its way to deliver the chips to M/s Sherawali Enterprises Pvt. Ltd. at Nambatpur, Paligunj. The documents accompanying the consignment were shown to the forest officers but they had not cared to look into the papers. There was no material to show that the stone chips were from reserved forest. The allegation is ipse dixit of the persons. Power of confiscation vested with forest officials who are executive authorities; it is wholly improper in view

of separation of executive and judicial powers. In the circumstances it was urged that the court can release the Vehicle.

Learned Addl. P.P. argued that the vehicle is liable for forfeiture and therefore it cannot be released. It was submitted that the criminal courts have no jurisdiction to direct release of a vehicle once the vehicle seized for a reason to believe that it has been used for committing forest offence and the seized vehicle is subjected to confiscation proceeding. Upon prior intimation to the Magistrate, no court shall have jurisdiction to order for release of such vehicle on furnishing sureties. It was submitted that the Supreme Court clearly laid down the law in State of Karnataka Vs. K.A. Kunchindammad, 002) 9 SCC 90.

His Lordship diligently examined the provisions of the Indian Forest Act vis-à-vis the amendment by the Government of Bihar by the Bihar Amendment Act No. 9/1989. Before the amendment was enacted, the State Legislature noticed the merciless abuse of forest produce by unscrupulous persons in Bihar. The Court went through in detail the changes made by way of amendment to the Forest Act. As for the confiscation by the Authorized Officer of the property used in the commission of the forest offence, the Act provided an appeal before the District Magistrate and a revision before the Secretary to Government, Forest and Environment department.

The court further examined the relevance of the following case law in its application to the case under consideration:

1. State of West Bengal & ors Vs. Sujit Kumar Rana: (2004) 4 SCC 129;



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Conservator of Forests, Aranya Bhavan, 5th Floor, Room No. 514, Saifabad, Hyd - 500 004, T.S.
Date of Publication: 26-03-2020 Total Pages: 60 Date of Despatch: 4th or 5th of every month.**