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SPECIAL ISSUE ON "ASSUALT ON PUBLIC SERVANTS"



Fate of the protector of Environment and Forest

Anita Forest Range Officer was assaulted
on 30-06-2019 at Sarsala village.

JOURNAL OF THE ASSOCIATION OF RETIRED FOREST OFFICERS TELANGANA & ANDHRA PRADESH

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- The TSFDC has also taken up the challenging task of Eco-Tourism development in the State. Already open to public – Hyderabad Botanical Garden, Pala Pitta Cycling Park near Hi-Tech City, Madhapur, Mahavir Nischal Van Eco-Tourism Centre, Vanasthalipuram, JLTC Shamirpet Deer Park and Mrugavani National Park at Chilkur attracting increasing number of visitors.
- Two Eco-Tourism Projects in the back water of Nagarjunasagar and near Kawal Tiger Reserve are in the pipe line.
- TSFDC is also developing Urban Parks in Lalgadi Malakpet RF Block, Thumukunta & Shamirpet RF Cluster and Gowdelli RF, PC Kalan & PC Khurd Cluster

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Contents

1. Editorial Q.M.K 4
2. Goat Browsing - A Big Menace
 To Forest P.S. Rao 7
3. Climate Change in India
 Dr. Uma Shanker Singh 11
4. Plural Plumage for Feathery
 Angles
 B. Raghotham Rao Desai 23
5. A Tribute to Anitha, FRO,
 Kaghaznagar 24
 Nagabhushanam Dasari
6. Assam Wildlife Case
 Dr.A. Kishan,
 G.Ramakrishna Rao 25
7. A Cry, In the Wilderness?
 V.V. Hariprasad 27
8. Operation Retrieval of Forest
 Land Gondi Beat 29
 M.Raja Ramana Reddy
9. Are Big Dams Blessing or Curse
 V.S. Joshi 35
10. Insect and Its Importance in
 Nature S.Umesh Kanna,
 N.Krishnakumar and
 R.Ramamoorthy 39
11. Tribal Economy-Role in Forestry
 N.Krishnakumar, K.T.Parthiban,
 S.Umesh Kanna and
 C.Cynthia Fernanda 43
12. Birthday Greetings 47
13. News and Notes 48
14. Legal Notes 52

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EDITORIAL

Assaults on Public Servants: Assaults on public servants while discharging duty have increased in recent times. Public is attacking Forest Officers, Police Officers, Doctors, state Excise Officers and any officer of other law enforcing departments. Recently there was strike by doctors of West Bengal and Telangana for assaults on them. Whatever may be the reasons why public is resorting to take law in to their hands. This was not the case few decades ago. People don't have respect for the law of the land. They have become selfish and cannot tolerate any decision of the Government which is against their wishes. Politicians are taking the advantage of this situation and encouraging the public to attack the public servants to achieve Politicians selfish desires. Politicians encourage the people to encroach upon forest lands and then tell them that because of them only they could become the owner of this forest land and the public have to help them. These assaults on Forest Officers have increased since Forest Rights Act has been implemented.

On 30th of June in Sarsala village of Kagaznagar a group of Forest Department personnel reached the forest to make preparations for 'Haritahaaram', a plantation programme of the state government along with Police party. When the Forest officials reached the village along with the concerned Forest Range Officer, by name Anita, in a tractor to begin their work to level the ground, Zilla Parishad Vice Chairman K. Krishna Rao and his followers tried to stop them. Rao

entered into an argument with the Range Officer. Even as Anita Forest Range Officer was explaining that they were following the instructions of the government, she was attacked with sticks (Front cover page photo of this issue). The Forest Range Officer suffered severe injuries. The Police was a mere spectator to this incident and did not try to stop the attack on Forest Officials. This was to please the Politician. Some of the other Forest Officials of the team were also injured.

On 30th June it was a Sunday and everyone was spending time with his or her family members and was enjoying the life, but the duty minded forest staff including Anita a lady Forest Range Officer instead of spending time with their family members attended to the planting programme and in return she got this attack and injuries. She was not planting for herself, or for her Children's sake, but she was doing this in the interest of the local people and the environment. Only local people will get the benefit planting the area. If Public is having any grievance against forest staff or planting they can represent it to higher authorities of the forest department, or to District Collector, or the minister or Chief Minister and finally they can approach Courts instead of taking the law in to their hands. This clearly shows that the encroachers were not having any case but they wanted to stop the work by hook or crook and occupy the forest land for bringing it under the plough.

Immediately after the above incident another assault case took place on two Forest Department employees and staff sustained injuries by a group of people in a village. The two Forest personnel came under attack at Timmampet village in Bhadradi-Kothagudem district after they objected to ploughing of forest lands for doing agriculture.

In the third incident an MLA was booked for obstructing the work of forest officials and threatening them with dire consequences if they come to forest and continue the work.

On February 20, 2017, Range Forest Officer by name Daulat Ram Lader finished his dinner with wife Pushpa when there was a knock at the door. Lader was posted at Lailunga, Dharamjaigarh forest division, in Chhattisgarh's Raigarh district. Lader opened the door and stepped out to speak with the visitors. An hour later, his body, hacked to death, was found some 40 yards from his home just across the local police *station*. A month before, Lader had seized a tractor carrying illegally mined stones from the Kelo river, a tributary of Mahanadi that flows through the Lailunga reserve forest. It belonged to one Dilo Kumar. "Kumar had repeatedly threatened Lader for booking his lorry. Lader was known to be an upright officer who never bent to political pressure. He was killed for obstructing the nefarious activities of Kumar. 162 Range Officers were killed between 2012 and 2017 in India. "India has one of the highest rates of ranger's deaths in the world,"

"Our forests are an open treasury, easy to loot. Ravindra Singh Jachpele of the Maharashtra

forest department was killed for protecting the Gondia forests. While on routine patrol on May 20, 2017, Jachpele noticed illegal felling of trees in the Forest and booked the offenders. He was murdered a few days later. The men who cut the trees are now murder suspects. Safeguarding the endangered red sanders tree is another risky task. Valued as basic material for musical instruments crafted in southeast and west Asia, it can fetch over Rs 2 crore a tonne in the black market. Three forest staffers were stoned and hacked to death for trying to stop the smuggling in the erstwhile Andhra Pradesh in 2013. In Kalwa forest division, Navi Mumbai, encroachment cost forest guard Budhaji Jadhav his life on July 14, 2014. Illegal encroachment, including for real estate, industry and agriculture, is the single biggest driver of forest destruction: 1.89 million hectares of forest land—that's 18,900 sq km or roughly five times the size of Goa—have been encroached upon, according to data revealed by minister Prakash Javadekar in Parliament in April 2016. Nandini Velho, a researcher who has put in many years in Pakke Tiger reserve, Arunachal Pradesh, narrated the story of forest guard PD Majhi: "PD Majhi was instrumental in starting off anti-poaching efforts in Pakke, and was shot dead in an encounter with poachers in April 2007. In park director's words, 'It was like we lost a colonel only he died battling for Pakke. "Nine forest staff has been injured in two separate incidents in Odisha in May 2018. These are the few incidences of assault on Foresters, but if we collect the data from all the states we will get

many more incidents of assault on Forest Officers while discharging duty from all the States of country. Assaults on Foresters are taking place in all the States of the country and increasing every year.

The work that foresters do is critical to India's ecological and economic security. The forests they protect, for instance, absorb 11.25% of India's greenhouse gases, according to a ministry of environment and forests (MoEF) report. The value of what is technically called an "ecosystem service" would amount to Rs 6 lakh crores. Protection of the wildlife is very essential for India's agriculture (pollination by insects). Yet, investigations across India showed, foresters work with outdated equipment, no fast running vehicles, no emergency medical assistance, few support or safety systems and little recognition of the hazards they face every day. Government has not supplied even *lathis* to the foresters to use them in emergencies and they are totally unarmed. They protect few lakhs of crores of worth of the Government property which is spread over on (specially land, lakhs of crores of hectares, without any wall, door or lock. Imagine their condition.

Encroachment is destroying forests, and illegal

wildlife trade is driving species to extinction. Foresters protect Forest and wildlife as it is their duty and if not protected as per rules, they will be punished and removed from service, they are not protecting Forests, Forest lands and wildlife for their own benefit. Their efforts are only for the benefit of local residents who will get the benefit of protection to their forests and wildlife in the long run.

In my opinion these assault cases are occurring because of overpopulation, selfishness, poverty, illiteracy, high demand for resources (specially land), lack of awareness of punishment for assaulting a public servant, lack of awareness of forest's and wildlife's roll in agriculture, unnecessary interference of local politicians in every matter and wrong policies of the Governments (FRA implementation).

Vana Premi wishes that all the in service officers, retired officers, general public and politicians to think over this subject and send their suggestions to the Central and State Governments and suggest the measures to be taken to avoid assaults on foresters before the morale of foresters reaches to the lowest ebb and they resort to any other action. **QMK**

The mountains, the forest, and the sea, render men savage; they develop the fierce, but yet do not destroy the human.

(Victor Hugo)

GOAT BROWSING – A BIG MENACE TO FORESTS

By
P. S. Rao

Goats were probably first tamed more than 9,000 years ago in Asia and in Eastern Mediterranean region. Today, most wild goats live in Asia. Domesticated goats are important farm animals throughout the world, especially in areas with rugged, mountainous terrains or with arid or semi-tropical climates. Unlike most other kinds of livestock, goats thrive in harsh environment and have widest ecological range. India ranks top in goat population. It is high in Rajasthan and Gujarat which are having maximum area under deserts. Worldwide there are about 300 breeds of domesticated goats. They produce more than 6.5 billion liters of milk and about 2 million metric tons of meat yearly. Goats play a significant role in providing supplementary income and livelihood to millions of resource poor farmers and landless laborers in rural India. Small ruminant rearing ensures self-employment and acts as a cushion in distress situations like drought and famine. In dry parts of the world goat browsing is one of the main causes of deforestation. Goats have the unique capacity of standing on their hind legs to reach maximum height possible. They easily digest roughages compared to other livestock. Unlike other herbivores, goats can adjust to extreme environment conditions and sustain on a variety of plant species. They adapt well to the nutritional environment and could consume large amount of tannins without suffering any ill effects. The impact of overgrazing is more pronounced with trees and shrubs. They eat the leaves and small twigs of trees and seeds fallen

from the trees have little chance of survival for they are seen gobbled up by the goats. Conservationists have tried to get rid of the goats in country side because of damage they cause to the forests. Goats introduced in Hawaii islands in the late 1700s caused hardship by eating all the vegetation. The navy killed the last goat in the 1980s. Since the elimination of goats, many of the plant species of Kaho Olawe island of Hawaii have made a comeback. Goats persist longer than sheep during drought conditions and this exacerbates their contribution to land degradation. Due to damage to the vegetation and compaction of soil by the hooves of goats, the top soil becomes susceptible to massive erosion and the compacted soil inhibits seed germination. One of the reasons for forest degradation in arid and semi arid regions in India is excessive goat browsing.

The presence of too many herbivores mainly goats, in an area can lead to overgrazing and land degradation. The impact of these species is most pronounced during drought when animals compete for declining food and water resources. As goats are generalist herbivores they can affect a wide range of plant species including grasses, forbs, herbs and perennial shrubs and trees. Contribution of goats to total grazing pressure could be assessed by estimating the net annual above ground productivity of vegetation eaten. Goats at an average density of 2 per sq. km., consume 0.73 tons of dry matter per year. The fact that goats

can survive on a wide range of plants means that their impacts may be greater than other herbivores during the periods of drought.

An interesting observation was made in Kenya on the response of trees to goat browsing. A study in a stand of *Acacia depreanlobium* trees has shown that thorns on lower branches browsed by domesticated goats were significantly (26-44%) longer than thorns on higher branches of the same browsed trees, and significantly (26-27%) longer than thorns on branches at similar height on trees protected from goat browsing. The response of vegetation mainly consisting shrubs, to goat browsing intensity in North Tunisia differed depending on stock rate. The results of one year study suggested that ecologically adapted stocking rate was 1-2 goats/ ha. In an experiment in Australia it was found that when the forage was unlimited, goats spent 63% of their time grazing and 28% browsing. Most browsing took place in dry conditions when pasture quality was low. When forage was in short supply the goats, unlike sheep, accepted shrubs not normally eaten, leading to total disappearance of them. Other woody plants were eaten erratically. Thus goats demonstrated a potential for overgrazing in dry season compared to sheep and caused more damage to the environment than sheep. Since the goats are voracious eaters, sometimes they are used in shrub control methods. In one such case in Southern California goats were used to control Chaparral species.

One interesting observation is the change in land and vegetation cover and natural resources of the Cape Verde islands since their colonization by Portuguese around 1460. There is a catastrophic degradation of the land and

vegetation of these islands from a dry but 'well wooded' savanna to near desert landscape today. The major direct mechanism of this process was over exploitation of the vegetation cover by the settlers and their goats.

Introduction of domesticated mammals, fires, mining and logging have variously affected the forest conditions of the Kaimai Ranges, an important watershed in the eastern central North Island of New Zealand. Evidence suggests that repeated devastation by fires spreading from land-clearing burn-offs, continued browsing by goats, and influence of climatic factors have caused deterioration of the high-altitude forests above 600 m, which has resulted in severe increase in the frequency of landmass movements. These factors have also led to the overflowing of streams and rivers, resulting in an increased frequency of flooding in the surrounding lowlands.

A dramatic example of the long-term effects of overgrazing is provided in parts of Cyprus. Goats are excluded from graveyards so that the ground cover of trees and grasses is preserved to a much greater extent than on the adjacent land. As a consequence, graveyards are sometimes found at a level several meters higher than the surrounding areas affected with overgrazing and browsing from where soil got eroded due to wind and water erosion.

Data on plant species foraged, foraging hours, bite rate, size and species Dry Matter (DM) removed per bite were collected in a range land in the forested zone of Central Himalayas to describe the foraging behavior of cattle and goats. Cattle and goats together foraged 31 plant species, of which 29 plant species (26 herbs and 3 woody plants) were foraged by

cattle and 21 (16 herbs and 5 woody plants) by goats. The average foraging period was similar for cattle and goats (10 hr. each), whereas bite rate (19-46 bites/ min), and bite size (58-199) were significantly different for adult cattle, calves and goats in different months. The average DM intake was 3.2 kg for adult cattle, 1.1 kg for calves and 1.0 kg for goats. The foraging search cost, reckoned as distance walked per unit DM intake of calves (10 km/ kg) was by far the greatest, followed by goats (8 km) and adult cattle (3 km). Response breadth (in terms of species foraged) of goats was significantly narrower in the species-rich site (0.22) than in species-poor site (0.46) while cattle showed response breadths in the 2 sites as 0.38-0.42 indicating that goat browsing intensity is more in a specific area causing more damage when compared to cattle. Food habit data for cattle (bullocks, calves, cows) and goats were obtained from a continuously grazed rangeland of open grassland dominated by *Cymbopogon distans* with scattered trees of Banj oak (*Quercus leucotrichophora*) located between 1600 and 2000 m altitude in the Kumaun Himalayas to provide dietary information under high and low extremes of forage availability. Cattle diet was dominated by grasses (82% of the total diet) in the wet season and dead herbaceous biomass (70%) in the dry season, while goat diet was largely from woody plants and tall forbs (31-73%) in both seasons. Dietary overlap was significantly greater among cattle (0.72-0.95) than between cattle and goats (0.39-0.67) in both seasons. This clearly reveals that damage to trees is more by goats than cattle. In sensitive ecosystems of Himalayas, grazing was found to pose greatest threat to environmental stability, followed by

tree fodder collection. Contrary to prevailing belief, firewood collection was not a serious threat to the degradation of public lands. No doubt that uncontrolled cutting of trees for fuel is a cause of deforestation and land degradation but most of the forests grow back quickly if they are not trampled and consumed by marauding livestock mainly consisting goats. The undue emphasis placed on firewood as the cause of deforestation has obscured the damaging role played by livestock.

In moderate numbers, cattle cause less serious damage to forests. The effect of their browsing upon tree foliage and undergrowth is not sufficient to prevent natural regeneration. Some nomadic pastoral societies have lived in harmony with their natural woodland environments for long periods of history. It is when livestock numbers increase and goats are added the problems begin to arise. Trees get damaged through excessive removal of foliage, with consequent stunting of their growth; in some cases they are stripped so severely that they are killed. By eating or trampling young shoots and seedlings, animals also prevent natural regeneration.

As mentioned above, the damaging impact of livestock grazing and fodder gathering is considerably greater than fuel wood cutting in some woodland areas. This was demonstrated in a study of the Phewa Tal catchment area in Nepal. Another study conducted in Nepal calculated the amount of the forest land needed to supply fodder, fuel wood, and timber needs, given local consumption patterns. The area required for sustainable fodder production was estimated to be three to five times greater than that needed to provide for the combined timber

and fuel needs. This suggests that the large animal population including goats is the most important factor in the forest depletion taking place in the area.

Overgrazing by animals including goats is also a major contributory factor in the desertification occurring in many arid regions of the world. As human population increases in the poor and developing countries, rapid urbanization takes place and more area is brought under housing and infrastructure development leading to reduced pasture availability. The result is to concentrate more and more animals into smaller areas. The environmental degradation, particularly around water holes and along migration routes, can be severe, as has been noted in many of the semi-arid grassland areas in East Africa, the Middle East, and the Sahel. Similar problems have been described in the dry regions of Chile, the Brazilian northwest, parts of Venezuela, the Dominican Republic, and a large part of Haiti. With regard to conditions in India, National Commission on Agriculture in its

1976 report observed:

"An analysis of the trend of goat population over the period 1951 to 1972 has shown an enormous progressive increase in the goat population. While the goat population in 1951 was 47 million, it was as high as 68 million in 1972. The trend of increase in goat population particularly in desert areas is disturbing. This can produce a devastating effect on vegetation due to browsing habits of goats. The sheep and goat owners should, therefore, be educated on the advisability of reducing the number of goats and improving their quality as recommended. Further, restrictions on grazing of goats on specially developed grasslands should be imposed. At the present rate of growth the number of goats is likely to be of the order of 90 million in year 2000."

As per the available data, there was a rapid increase in the percentage of growth pattern of goats compared to other livestock in the country for a period of 3 decades immediately after the independence as follows:

Category	1951-82		
	% increase from 1951 to 1961	% increase or decrease from 19 61 to 1972	% increase from 1972 to 1982
Cattle	+ 13.04	+ 1.58	+ 6.98
Buffalo	+ 18.13	+ 12.15	+ 20.15
Sheep	+ 4.14	- 0.001	+ 20.2
Goat	+ 29.27	+ 10.94	+40.28.

However, there is a marginal decrease in the population of goats in India as found out in the 19th All India livestock census 2012. Goat population was 14,0537,000 in 2007 and it decreased to 13,51,73,000 in 2012.

Worldwide, the demand for meat, milk and fiber is increasing progressively and expected to

further rise in future in view of sizable increase in per capita income and health consciousness of people. Consumers prefer products that are 'clean, green and ethical'. As such goat producers are shifting to environment friendly husbandry practices which are a welcome step as it reduces the pressure on natural vegetation.

CLIMATE CHANGE IN INDIA

By

Dr. UMA SHANKER SINGH

ABSTRACT: - Increasing climate variability, extreme weather events and rising temperatures pose challenges to India's food and nutrition security, according to the 2018 Global Food Policy Report by International Food Policy Research Institute (IFPRI), an agriculture think-tank based in Washington DC, US. With half of the country's farms un irrigated, agriculture growth rates in India fluctuate a lot, India's Economic Survey 2018 says. Climate change is the most pressing issue facing South Asia (IFPRI's 2018 Global Food Policy Report 2018) In 2030, India's agriculture output might be 7 points lower at 1.56 times the 2010 level against a potential 1.63 times without climate change, and the number of hungry 22.5 percent higher at 90.5 million against 73.9 million without climate change. In that context, it is very difficult to look at each and every problem of Indian farmers despite all the resources at our hand. It is not possible. It really depends on what the government will do to cut the carbon emission. First, climate adaptation would be very critical to make sure that farming practices and products are able to cope with hotter, drier weather. The whole agriculture direction must change. Second, to double farmers' income, we must go beyond agriculture. A big percentage of farmers' incomes are not from farming but from non-farming activities such as trading or casual work. Climate change will probably increase the risk of food insecurity for the poor. With effects distributed across the world, climate change is already affecting agriculture. It may have an adverse effect on crop production in low latitude

countries in future. People having the low income are heavily dependent on agriculture and forestry. Climate change is closely related to them as they have fewer technical and financial resources. Developing country like India is largely depending on agriculture. Their main source of the economy is agriculture where it employs nearly two-thirds of the country's population and contributes nearly 27% of the total Gross Domestic Product (GDP). Agriculture exports 13 to 18% of total annual exports of the country. However, Indian agriculture fundamentally dependent on the weather and seasons and 62% of the cropped area is dependent on rainfall today. Impact of climate change on forest and wild life is fearful and situation looks gloomy. The world's greatest forests could lose more than half of their plant species by the end of the century unless nations ramp up efforts to tackle climate change, according to a new report on the impacts of global warming on biodiversity hotspots. Mammals, amphibians, reptiles and birds are also likely to disappear on a catastrophic scale in the Amazon and other naturally rich eco systems in Africa, Asia, North America and Australia if temperatures rise by more than 1.5C, concludes the study by WWF, the University of East Anglia and the James Cook University.

KEY WORDS: - Climate Change, Forest and Wildlife, Carbon Emission, Biodiversity, Wet-bulb Temperature, Climate Model, Adaptation, Mitigation, World Economy, Gross Domestic Product

INTRODUCTION: - The beginning of the 21st century has seen a variety of extreme heat impacts, from the 2003 European heat wave which was responsible for tens of thousands of additional deaths to the 2010 Russian heat wave which was responsible for a rise in global food prices. More recently, extreme temperatures occurred in Australia in 2012 and 2013, the US Southwest in 2013, in India, Pakistan, and other parts of the Middle East in 2015 and 2016, and again in central Europe in the summer of 2017. Recent attribution studies have suggested that such extreme heat events have already been made more likely due to anthropogenic warming. India's CO₂ emissions grew by an estimated 4.6% in 2017, despite a turbulent year for its economy. Measured per person, India's emissions are still very low at only 1.8 tonnes of CO₂ per capita which is much lower than the world average of 4.2 tonnes. But those emissions have been growing steadily, with an average growth rate over the past decade of 6%. With India being the world's fourth largest emitter of CO₂, it is important to understand what the country's emissions are currently and where they might be headed. Given India's early stage of economic development, low per-capita emissions and its large population, there is significant scope for its emissions to increase. India's pledge under the Paris agreement is to reduce the carbon intensity of its economy by 33-35% by 2030, compared to 2005 levels. Given projections of very strong economic growth over this period, emissions are expected to grow significantly. Prolonged heat-wave conditions in other words, a summer lasting up to eight months could be the new normal by the 2070s for the Gangetic plains, even if greenhouse-gas emissions are cut to limit, the global temperature will keep increasing

beyond 2°C as the accumulated level of carbon dioxide in the atmosphere is so huge and being very long life cycled gas it does not disintegrate so easily and so soon therefore, the temperature will go up regardless of the fact whether we have zero emission of carbon dioxide or not. The world is getting not only hotter but also more humid. The combined scientific measure of heat and humidity is called "wet-bulb temperature", which hardly ever crossed 32°C between 1985 and 2005. The nature of such heat waves has since changed because of rapidly growing greenhouse gas emissions, exacerbating climate change. In the Gangetic plain, one of the world's most climate sensitive regions, wet bulb temperatures currently touch 31°C, on average, one day every year. By the 2070s, these heat waves may become 100 to 250 times more frequent Using a suite of 18 climate models, two emissions scenarios, and five population-growth scenarios, it was estimated that the possibility of the wet-bulb temperature approaching or exceeding 35°C, the theoretical human heat tolerance limit by then and it seems that the wet-bulb temperatures may rise enough to imperil human life (Ethan D Coffel 2018). The need of the hour is to find out our emission trajectory as it is the most important factor which determines whether such extreme heat occurs this century or how frequently it occurs but if it occurs the probable places are likely to be in India, the Middle East, the Amazon, and parts of eastern China and this temperature rise is going to be one of the most serious threats to our society. The poor, those with outdoor jobs, cardiovascular and respiratory conditions are likely to be the most vulnerable. High temperatures could even give rise to new diseases about which we do not know yet fully

well like it has spread in some parts of South America and this kind of high temperature has all the potential to threaten our agriculture ecosystem, which currently employs 228 million people or 48.8% of India's working population and may disrupt food security of the country as a whole. What could exacerbate the situation is the finding on the basis of different climate models that in some of those areas, by then, the dry bulb temperature, a measure of air temperature alone is expected to hit the average of the single hottest temperature each year between 1985 and 2005, anywhere between 50 and 125 times annually, as against once per year currently. Climate change is a problem that needs immediate attention both scientifically and socially but unfortunately it has not been the attended to with the pace it requires today. This has been found through various climate models that by the 2070s, on the days with the highest wet-bulb temperatures, specific humidity would have increased between 10% and 15% relative to high wet-bulb temperature days in the historical period, across all the four susceptible regions: India, eastern US, West Africa and China. However, increases in temperature on the days with the highest wet-bulb temperatures will range from 1°C to 2°C in India to 3°C to 4°C in the eastern US, West Africa, and eastern China. It seems that temperatures exceeding 35°C, the upper limit on human survivability, would begin to occur with global-mean warming of about 7°C, calling the habitability of some regions into question and if emission is cut drastically then there are possibilities that it would restrict wet-bulb temperatures to around 30°C in the late 21st century, while inaction would cause the wet-bulb temperature to approach and in some cases exceed 35°C across most of South Asia. The

co-occurrence of consecutive hot and humid days during a heat wave can strongly affect human health. Considering the effect of humidity at 1.5° and 2° global warming, highly populated regions, such as the Eastern US and China, could experience heat waves with magnitude greater than the one in Russia in 2010 (the most severe of the present era). The apparent temperature peak during such humid-heat waves can be greater than 55 °C. According to the US Weather Service, at this temperature humans are very likely to suffer from heat strokes. Humid-heat waves with these conditions were never exceeded in the present climate, but are expected to occur every other year at 4° global warming. This calls for respective adaptation measures in some key regions of the world along with international climate change mitigation efforts (Simone Russo 2017). The study on climate modeling is the first global estimate of population exposure to wet-bulb temperatures that approach or exceed 35°C, the theoretical human heat tolerance limit. It is estimated that by the 2070s the annual exposure to wet-bulb temperatures of at least 32°C, that is, a wet-bulb just above what is seen in today's most severe heat waves, may increase five to ten times relative to 2020, depending on the trajectory that emissions take in the interim period. In the worst case scenario, the exposure will touch around 750 million person days. Also, the chance of a wet-bulb temperature above 34°C occurring in India, China, and the Amazon is greater than 33% and the chance of a wet-bulb temperature above 35°C occurring in those same areas is greater than 15%. Since those areas are very densely populated, the annual exposure to wet-bulb temperatures of 35°C

or higher could be approximately one million person-days. If efforts are made to contain emissions, the exposure to wet-bulbs in the vicinity of 32°C will be limited to 250 million person days while the exposure to the extreme 35°C threshold will be entirely eliminated. This high population exposure is the outcome of our projection that the tropics and mid-latitudes could experience 100-250 days per year that exceed the historical once-per-year maximum wet-bulb temperature, a measure of the highest commonly experienced heat conditions in the current climate. Those areas could experience 50-125 days per year when dry bulb temperatures exceed the historical once-per-year maximum. This represents a dramatic shift in climatic norms in the tropics and sub-tropics, to where half or more of the year is hotter than the highest levels of heat that occur now. Other regions within 30° latitude of the equator may experience between 25 and 250 days per year that exceed historical once-per-year maximum wet-bulb temperature, and between 25 and 150 days per year that exceed the historical once-per-year maximum air temperature. In the mid-latitudes, these numbers are somewhat lower at between 25 and 40 days per year for both air and wet-bulb temperature. India currently experiences 31°C wet-bulb temperatures fairly regularly, and even modest climate change will push wet-bulbs above 32°C. So yes, India is very likely to experience 32°C wet-bulb temperatures in the future. The big question we looked at is whether wet-bulb temperatures are likely to approach 35°C, the theoretical limit for human tolerance.

GLOBAL CARBON DIOXIDE EMISSIONS: - Earth's atmosphere is getting warmer; we all know it, thanks to Global Warming. However, new research claims that the situation could actually

be even worse than what many believe. According to the latest data, carbon dioxide levels or the CO₂ concentration in the Earth's atmosphere is well beyond the acceptable threshold. According to data from the Mauna Loa Observatory in Hawaii, CO₂ concentration last month in Earth's atmosphere exceeded an average of 410 parts per million (ppm) across the entire month. This is the first time since humans have been monitoring the climate that the CO₂ monthly average has exceeded the acceptable threshold. It puts this world very close to some targets which nobody would really want to get to, like getting over 450 or 500 ppm. That's pretty much dangerous territory and the rate at which CO₂ concentration is growing in the atmosphere has been faster in the last decade or so than in the 2000s. Even during the Industrial Revolution, the carbon dioxide levels never went above 300ppm, said the Scripps Institution of Oceanography. However, the rise in the carbon dioxide levels must not come as a surprise. The Keeling Curve, which shows the carbon dioxide levels in the atmosphere, has been showing a consistent rise in CO₂ levels for decades. Measuring the CO₂ concentration using the Keeling Curve started in 1958. Not only the carbon dioxide levels breached the threshold, but April was also the first month when the Keeling Curve recorded a 30% rise in the CO₂ concentration globally. The carbon dioxide level breached the 400 parts per million marks for the first time in 2013. Further, scientists have used ice cores containing ancient air bubbles to get the data on the CO₂ levels from the last 800,000 years. According to Scripps, this data showed that carbon dioxide levels fluctuated in the past as well, but it never went above the 300 parts per million before

the Industrial Revolution. Monitoring CO₂ levels is important because, like all greenhouse gases, it absorbs the heat in the Earth's atmosphere. The primary reason for the rise in the CO₂ levels is the burning of fossil fuels, waste and other products. Plants do relieve the atmosphere from CO₂ by absorbing it, but continuous deforestation has left the Earth with fewer plants. According to NASA's Earth Observatory, the ocean also absorbs CO₂, but it can only take in the greenhouse gases up to a certain point. Once it reaches that point, ocean circulation, which is a process for distributing heat, would stop. This, in turn, would mean more carbon dioxide in the atmosphere.

CLIMATE CHANGE AND INDIA: - Climate change is now considered one of the most prominent challenges of our time, with a warming planet being a present-day reality, rather than a potential future threat. The problem has been thrust into public consciousness ever since scientific consensus emerged that "warming of the climate system is unequivocal" and that "most of the observed increase in global average temperature since the mid-20th century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations." Anyone who has experienced the increasing intensity of sizzling temperature in India over the past two decades would find it hard to have any doubts as to whether our planet is warming. It has become routine to see the scorching heat gripping many parts of India during summer months, with the mercury shooting up to as high as 48+ degrees Celsius (118.4 degrees Fahrenheit) and causing thousands of deaths of vulnerable people. In the last four years, India has seen as many as over 4,620 deaths caused by heat waves, according to data published by

the Ministry of Earth Sciences. The increased frequency and severity of these heat waves are blamed on the altering global weather patterns as a result of climate change due to human emissions of greenhouse gases (GHGs), including carbon dioxide, methane and nitrous oxide, among others. India's climate is warming up at a very fast rate. It is warming at a much faster rate than thought previously. Scientists and environmentalists say global warming is also endangering India's rivers like the Ganges, which holds deep religious and cultural significance for millions of Indians. They note that rising temperatures are causing Himalayan glaciers, which provide water to some of these rivers, to recede. This is affecting the amount of water flowing into them annually. The harmful and profound environmental effects of climate change are not limited to the occurrence of severe heat waves and threats to river water systems. Other phenomena observed worldwide in recent years include: reductions in snow and sea ice extent, rising sea levels, changes in ocean acidity, extended droughts, stronger tropical storms as well as increased frequency of heavy and extreme rainfall events. Already one of the most disaster-prone nations in the world, India is considered to be extremely vulnerable to these effects. Its dense coastal populations could be hit hard by rising sea levels, while changing weather patterns may negatively impact agricultural and food security. They could also lead to acute water shortages and deadly disease outbreaks. The potential adverse implications of unabated GHG emissions have placed New Delhi in a tough spot, forcing it to look for ways to come up with measures to cut the nation's high carbon footprint while not jeopardizing its economic growth prospects. In per capita terms, India's

emissions are only one-third of the global average and far lower than the richer countries or Asian peers such as China but in absolute terms, the South Asian nation is one of the major emitters of greenhouse gases, currently accounting for over 4.5 percent of global GHG concentrations, behind only China, the United States and the 28- nation European Union bloc. India's energy sector is a significant contributing factor. Asia's third-biggest economy relies on coal for around 60 percent of its total electricity generation and the fossil fuel remains a vital element in the nation's long-term energy strategy. India's efforts to boost economic growth and development by rapidly industrializing and transforming itself into a manufacturing hub are set to drastically increase the demand for energy in a country that is home to about a sixth of the world's population. Climate change impacts every aspect of our ecosystem but I will confine on two aspects i.e. impact on agriculture and forest ecosystem.

INDIAN FARMERS: - Heat-adaptation strategies such as heat wave early warning systems, public-education campaigns on the dangers of heat, and social check-ups for vulnerable people have mostly been tested in high income countries and cities where they have helped to drastically reduce the death toll on hot days. However,

people working outdoors with no access to air conditioning are likely to be much more vulnerable to lower productivity, heat stroke and in the worse case, to death caused by heat. It would be very difficult to imagine that how many of India poorest farmers would fall in this category. In addition, any existing health problems, especially cardiovascular and respiratory conditions, make heat illness more likely. People without access to safe water will be particularly at risk of rapid dehydration in extreme heat waves. Agricultural workers in India and Central America have already begun to experience a rare and sometimes fatal kidney disease linked to heat and dehydration, and this and other conditions could become common around the world in the future. Excessive heat would certainly damage agriculture, potentially a major concern for India because agriculture dominates your economy. Climate change is taking a toll on India's agricultural productivity and farmers' incomes the economic survey 2018 shows. The impact of temperature and rainfall on agriculture is felt during extreme changes when temperatures are much higher, rainfall significantly lower, and the number of "dry days" greater than normal. The table below shows how climate change affects adversely to the Indian agriculture.

TABLE-1 IMPACT OF WEATHER SHOCKS AND AGRICULTURAL YIELDS

CROP COMBINATION	EXTREME TEMPERATURE SHOCKS (IN PERCENTAGE)	EXTREME RAINFALL SHOCKS (IN PERCENTAGE)
AVERAGE KHARIF	4.0	12.8
KHARIF IRRIGATED	2.7	6.2
KHARIF UNIRRIGATED	7.0	14.7
AVERAGE RABI	4.7	6.7
RABI IRRIGATED	3.0	4.1
RABI UNIRRIGATED	7.6	8.6

SOURCE: ECONOMIC SURVEY 2018(PERCENTAGE DECLINE IN RESPONSE TO TEMPERATURE RISE AND RAINFALL DECREASE)

This has been found that the impact of climate change is more adverse in un irrigated lands compared with irrigated areas. "Extreme shocks have highly divergent effects between un irrigated and irrigated areas (and consequently between crops that are dependent on rainfall), almost twice as high in the former compared with the latter. This is also important to understand that around 52% (73.2 million hectares area of a total 141.4 million hectares net sown area) of India's total land under agriculture is still un irrigated and rain-fed; the sector could be in trouble. The change in agricultural productivity patterns as a result of climate change could reduce annual agricultural incomes by between 15% and 18% on average, and between 20% and 25% particularly for un irrigated areas. Climate change models, such as the ones developed by the Intergovernmental Panel on Climate Change (IPCC), predict that temperatures in India are likely to rise by between 3 degrees Celsius and 4 degrees Celsius by the end of the 21st century. "These predictions, combined with our regression estimates, imply that in the absence of any adaptation by farmers and any changes in policy (such as irrigation), farm incomes will be lower by around 12% on an average in the coming years, and un irrigated areas will be the most severely affected, with potential losses amounting to 18% of annual revenue (Economic Survey 2018). Climate change manifests through rising temperatures, can alter hydrological (water) cycles and exacerbates extreme weather events. In turn this means higher risks to energy, food and water systems, populations and the global economy. Over 2030 to 2050, the World Health Organization (WHO) expects 250,000 additional deaths per year due to climate change. Furthermore, as the world seeks to limit climate

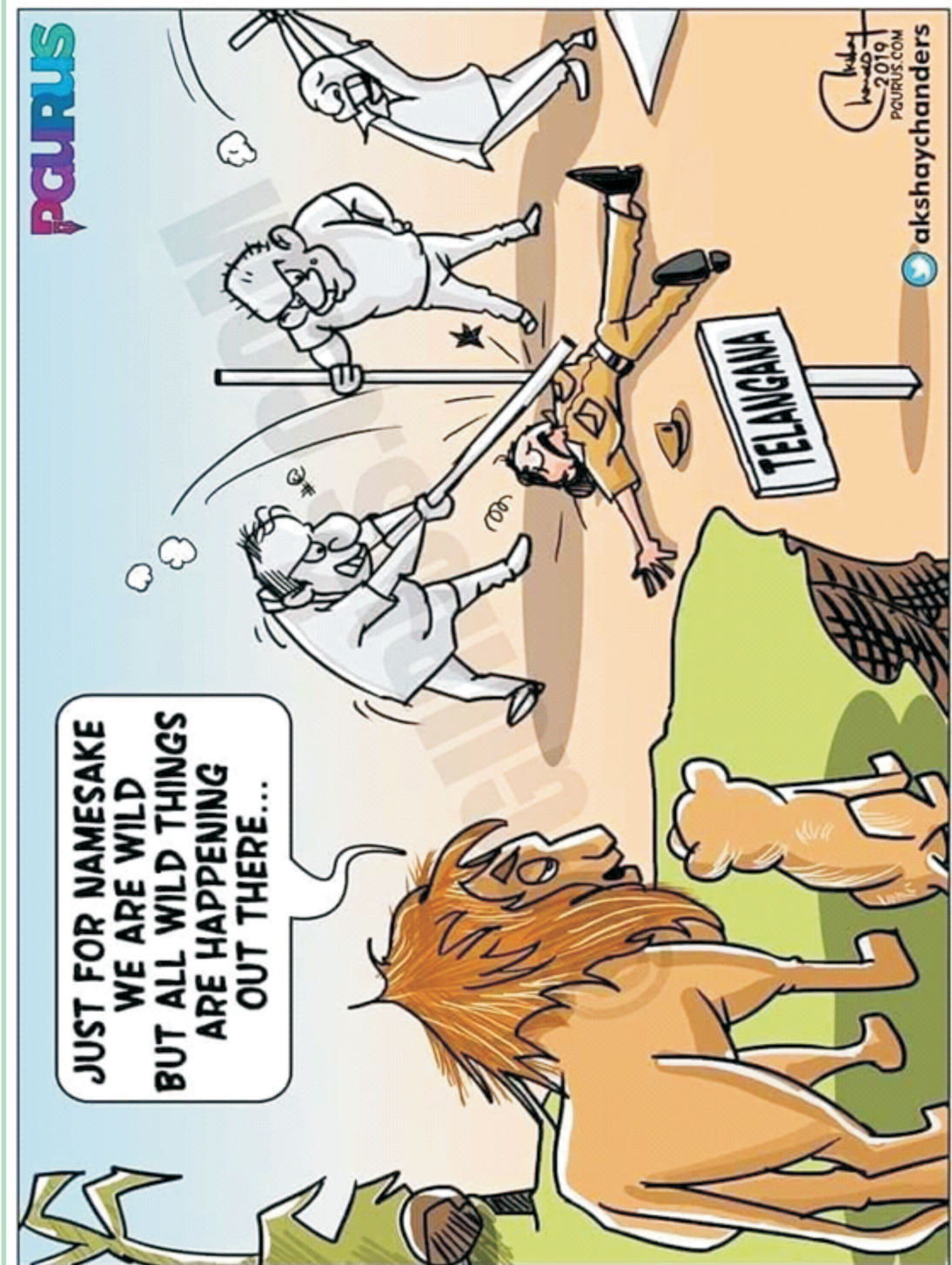
change, we believe a combination of climate policy and disruptive cleaner technologies, which do not use fossil fuels (particularly in the power and transport sectors), mean that the peak for fossil fuel demand may arrive in the coming years. In this report, we look at which countries are most vulnerable to climate change in terms of both the physical impacts and the associated energy transition risks and which are better placed to respond to these pressures. The HSBC carried out a survey on the vulnerability of different countries on the basis of climate change and it was found that India is the most vulnerable country to climate change, followed by Pakistan, the Philippines and Bangladesh, a ranking by HSBC showed in its index. The bank assessed 67 developed, emerging and frontier markets on vulnerability to the physical impacts of climate change, sensitivity to extreme weather events, exposure to energy transition risks and ability to respond to climate change. The 67 nations represent almost a third of the world's nation states, 80 percent of the global population and 94 percent of global gross domestic product. India is one of the most vulnerable out of the four nations in the sense that climate change could cut agricultural incomes; particularly un irrigated areas that would be hit hardest by rising temperatures and declines in rainfall. The other three nations namely, Pakistan, Bangladesh and the Philippines are susceptible to extreme weather events, such as storms and flooding but Pakistan was ranked by HSBC among nations least well-equipped to respond to climate risks. South and Southeast Asian countries accounted for half of the 10 most vulnerable countries. Oman, Sri Lanka, Colombia, Mexico, Kenya and South Africa are also in this group. The five countries least

vulnerable to climate change risk are Finland, Sweden, Norway, Estonia and New Zealand. In its last ranking in 2016, HSBC only assessed G20 countries for vulnerability to climate risk (HSBC 2018). India is among the countries which are at the greatest risk of food insecurity due to weather extremes caused by climate change, a global study suggests. Researchers led by the University of Exeter in the UK examined how climate change could affect the vulnerability of different countries to food insecurity — when people lack access to a sufficient quantity of affordable, nutritious food. The study, published in the journal *Philosophical Transactions of the Royal Society A*, looked at 122 developing and least-developed countries, mostly in Asia, Africa and South America. The countries at the greatest vulnerability to food insecurity when moving from the present-day climate to 2 degrees Celsius global warming are Oman, India, Bangladesh, Saudi Arabia and Brazil, researchers said. The study further says that vulnerability to food insecurity increases more at 2°C global warming than 1.5°C in approximately three-quarters of countries assessed. The vulnerability increase can arise from increases in either flooding or drought. Reduced drought leads to decreased vulnerability in a limited number of cases. Most simulations here project a general increase in mean stream flow in most of the basins examined, but with a number of notable exceptions in the tropics. While flows in the Ganges are consistently projected to increase by 30–110% at 2°C, Amazon flows could either increase by 3% or decrease by 25%. Ensemble-mean changes in river flow often do not give a full impression of the magnitude of changes that may be possible, so adaptation planning in particular should not rely on ensemble-mean projections and instead consider a range of

outcomes. The seasonal low stream flows also increase in many basins, but not as many as for the mean flows many basins see decreased low flows in some or all projections. Broadly, changes in weather extremes at 1.5°C global warming could be estimated by scaling back the impacts at 2°C, if this is done with individual ensemble members rather than the ensemble mean. However, this was not always the case for impacts that depend on more complex process or interactions between more than one climate variable, such as run-off and an indicator of vulnerability to food insecurity (Betts RA et al. 2018).

IMPACT OF CLIMATE CHANGE ON

AGRICULTURE: - The food grain production in India has increased spectacularly due to the Green Revolution from 50 Mt in 1951 to 212 Mt in 2002 and the mean cereal productivity has increased from 500 kg per ha to almost 1800 kg per ha. The share of agricultural products in exports is also substantial with 15% of export earnings. Agricultural growth also has a direct impact on poverty eradication and is an important factor in employment generation. The wheat accounts for onethird of the total food grain production, while rice forms 43% of the total and is cultivated in 43 mha (million hectares), which is about 30% of the net cultivated area. Agriculture is extremely vulnerable to climate change. Indian agriculture faces the dual challenge of feeding a billion people in a changing climatic and economic scenario. Even it is the main source of livelihood for almost 60% of the country's total population. The impacts of climate change on agriculture will be severely felt in India. It has been projected that under the scenario of a 2.5°C to 4.9°C temperature rise, rice yields will drop by 32%-40% and wheat yields by 41%-



PLEASE SEE PAGE NO : 27



**SOUTHERN FOREST RANGER'S COLLEGE
COIMBATORE
1973-75 BATCH ALUMNI
1ST RE-UNION MEET FROM 18-06-2019 TO 20-06-2019
HYDERABAD**

52%. This would cause GDP to fall by 1.8%-3.4%. Agricultural productivity is sensitive in two broad classes of climate-induced effects (a) direct effects from changes in temperature, precipitation, or carbon dioxide concentrations and (b) indirect effects through changes in soil moisture and the distribution and frequency of infestation by pests and diseases (A. Khajuriya and NH Ravindranath 2012). The starkest manifestation of India's 'agrarian crisis' is suicides by farmers that have taken place in increasing numbers 8000 in 2015, a 42% increase from the year before, and according to data reported so far from only five states, and around 7,000 in 2016. Experts have varying opinion on the issue of farmers' death and it ranges from farm productivity to loan waivers to governmental promises in analyzing the crisis but fact remains there that farmers are dying on account of poor agriculture ecosystem. There has been a study conducted by a Doctoral candidate in Agricultural and Resource Economics at the University of California at Berkeley, draws a positive correlation between rising temperatures and farmers' suicides in India. Comparing data on suicides, crop yields and cumulative exposure to temperature and rainfall across India, the author finds that for temperatures above 20° C, a 1° C increase on a single day causes 70 suicides on average during growing season. Temperatures during the non-growing season have no identifiable impact on suicide rates. Additionally, with rising temperatures, crop yields fall during growing seasons, but react minimally during non-growing seasons. This suggests that rising temperatures increase suicide rate through an agricultural channel of lowered crop yields. The study concludes that warming over the last 30 years has caused 59,300 suicides. This accounts

for 6.8% of the total upward trend in India's average suicide rate over the past three decades (Tamma A. Carletona 2017). In yet another study conducted at the University of Florida at Gainesville, this was observed that Without CO₂ fertilization, effective adaptation, and genetic improvement, each degree-Celsius increase in global mean temperature would, on average, reduce global yields of wheat by 6.0%, rice by 3.2%, maize by 7.4%, and soybean by 3.1%. Results are highly heterogeneous across crops and geographical areas, with some positive impact estimates. Multi method analyses improved the confidence in assessments of future climate impacts on global major crops and suggest crop- and region-specific adaptation strategies to ensure food security for an increasing world population (C.Zhao 2017). According to the National Crime Record Bureau, more than three lakhs farmers have committed suicide over the past 21 years in India. What significance do Carleton's and Asseng's findings hold for this crisis and the larger debate about the state of India's agriculture and farmers?

IMPACT OF CLIMATE CHANGE ON FOREST AND WILDLIFE: - The world's greatest forests could lose more than half of their plant species by the end of the century unless nations ramp up efforts to tackle climate change, according to a new report on the impacts of global warming on biodiversity hotspots. Mammals, amphibians, reptiles and birds are also likely to disappear on a catastrophic scale in the Amazon and other naturally rich ecosystems in Africa, Asia, North America and Australia if temperatures rise by more than 1.5C. In yet another study, three different levels of warming namely, 2.0C (the upper target in the 2015 Paris agreement), 3.20C (the likely rise given existing

national commitments) and 4.50C (the forecast outcome if emissions trends remain unchanged) on nearly 80,000 plant and animal species in 35 of the world's most biodiversity regions will disappear. If governments fail to set more ambitious commitments than those currently on the table, the report projects devastating losses of more than 60% of plant species and almost 50% of animal species in the Amazon at a temperature rise of 3.2C. If countries lift their efforts sufficiently to reach the 2C goal, the outlook is improved but still grim with more than 35% of species at risk of local extinction in the region. If no actions are taken, the picture is apocalyptic, with a likely loss of more than 70% of plant and reptile species and a more than 60% decline of mammal, reptile and bird species in the Amazon. The picture was similarly alarming in the two other worst affected areas – south-west Australia and the Miombo woodlands in Africa but nowhere among the selected 35 hotspots escaped massive losses of wildlife, which would have a dire knock on human society and wellbeing. The losses might even be higher because the disappearance of one species - such as a tree - can have a knock-on effect on other ecosystems. Fewer plants can also mean less rain, according to other recent studies on the role played by the forest ecosystem. More pressing risks such as habitat loss from land clearance and pollution were not accounted for. There are two main ways to reduce these losses: adaptation and mitigation (R. Warren 2018). A partial solution may be relocation. Some animals, such as wolves, have been successfully reintroduced to their former ranges. In one of the studies 130 areas across the globe were identified which were suitable for carnivore reintroduction and concluded that re wilding will be essential for conservation in the future. Climate is probably the most important determinant of vegetation patterns

globally and has significant influence on the distribution, structure and ecology of forests. Several climate vegetation studies have shown that certain climatic regimes are associated with particular plant communities or functional types. It is therefore logical to assume that changes in climate would alter the configuration of forest ecosystems. The Third Assessment Report of IPCC concluded that recent modeling studies indicate that forest ecosystems could be seriously impacted by future climate change. Even with global warming of 1-2°C, much less than the most recent projections of warming during this century, most ecosystems and landscapes will be impacted through changes in species composition, productivity and biodiversity. These have implications for the livelihoods of people who depend on forest resources for their livelihoods. India is a mega-biodiversity country where forests account for about 20% (64 million ha) of the geographical area. With nearly 200,000 villages classified as forest villages, there is obviously large dependence of communities on forest resources. Thus it is very important to assess the likely impacts of projected climate change on forests and develop and implement adaptation strategies for both biodiversity conservation and the livelihoods of forest dependent people. There were two regional studies, the first pertaining to potential climate change impacts on forests in the northern state of Himachal Pradesh, and second in the Western Ghats. A recent study using BIOME3 model and climate change scenarios of HadCM2 projected large-scale shifts in areas under different vegetation types and an increase in NPP (N. H. Ravindranath 2005).

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PLURAL PLUMAGE FOR FEATHERY ANGLES

By

Dr. B. Raghotham Rao Desai.

It was our good fortune to have been able to make it during the last week of June this year (after expressing inability to participate in the inaugural function, due to a visit to be with our grandson in Kerala) to visit the eighth-floor-gallery of plush-UB city, and see for ourselves (myself and my artist daughter Smt. Vaijayanthi Sheshachala, who is a painter of repute herself and held exhibitions at Chitrakala Parishat / Chitrasanthe and elsewhere, receiving accolades for her grate paintings of Nature, while being a busy Techie at IBM, an MNC) the excellent exhibition: "Birds as Art" by one of India's leading nature photographers M N Jayakumar (Retired APCCF) as a tribute to the 100th anniversary of MBTA (one of the most significant 'bird protection laws' ever passed) — the colours on each of the 42 canvases having a character of their own, some of them having been digitally tweaked closely followed by her younger sister Dr. Seemanthini Satish who had made a name similarly in the fields of painting great portraits and perfecting in Odyssean style of dancing, being a very busy doctor herself like her neurosurgeon husband each move vibrant than the other. Despite persistent knee and back problems he was at the National parks in Rajasthan and Vidharbha (Maharashtra) recently and is likely to visit Costa Rica (Latin America) shortly, taking with him digital cameras, significant lenses and magical software, himself being such a power behind the camera and making the most of every opportunity that comes his way and simultaneously doing his bit of pursuing his lifelong passion of protecting wildlife and conserving natural resources.

This Mysorean self-taught photographer is in this business for the last two-and-a-half decades, whose photographs found pride of place in India and abroad (in the continents of Europe, America and Africa) which earned him among other recognitions: the Associate ship of RPS and Mastership of FIAP. Additionally, had authored and he published a couple of books, a review of one of his magnum opus (Life in the jungle: Memoirs of a Forester") having been published in Vana Vikas of Sept., '14 issue. Being an advocate of photography as an art, Jayakumar endeavors to make the art more accessible — not only his "Flying Peacock" adorns the cover-page of the said issue of VV beautifully, he had similarly contributed any number of times his painstakingly-taken photographs which adorned the journal over the years. Printed on imported canvas, his photographs need no maintenance and are destined to stay for decades in good shape. Though he is fabulously patient and perseverant, which are such important traits and assets for a successful wildlife photographer, he appears to be, while aiming for quality, equally merciless in rejecting bad pictures. It is learnt that his wife too is a remarkable photographer and joins him in his expeditions, whenever it is feasible. Highly experimental in nature, Jayakumar and even those whose names got mentioned above, have explored new reproduction techniques to promote their works and how successfully! May their tribe increase — 'so be it!!'

**A TRIBUTE TO ANITHA, FRO, KAGHAZNAGAR FOR HER
BRAVERY AGAINST BRUTAL ATTACK ON HER
ON 30TH JUNE 2019, IN RETROSPECTION**

**Original Telugu poem By NAGABHUSHANAM DASARI
Translated to English By BUCHIRAM REDDY KEESARA**

It is not for your own home, nor is it for the village where you were born

It is for the welfare of the people and improvement of environs and forest

It is for increasing the greenery in tune with Telangana-ku-Haritha Haram

It was a Sunday for everyone else; but not for you and your staff

Every minute you think of your duty; and dedication to duty is your motto

Anitha! You are a woman; but not certainly a frailty, not certainly, of course

With the unstinted co-operation of your staff who are obedient and equally zealous

You believed - duty first and anything next, a rare quality these days

Crooked politicians had to bow down before you, no match for your valour

*Forest ecology is a delicate one. If the forest
perishes, its fauna may go with it. The
athshean word for world is also the word for
forest.*

(Ursula K. Le Guin)

ASSAM WILDLIFE CASE

By

Dr. A Kishan and G.Ramakrishna Rao

Wildlife (Protection) Act, 1972 – Section 51 (1)- conviction of the accused for possessing hunted wild animals and birds – imprisonment of 7 years and fine Rs. 50,000/-

On 10-02-2017 the accused persons Sri Somnath Kisku and Sri Dhojen Tudu were apprehended by the Forest staff for poaching wild animals and birds. The official seized carcass of wild animals viz – (1) Hare (3 Nos), Mongoose (2 Nos) and birds Dove (one), Bulbul (One), Barbet (One), and sharp Dove (One). The accused were brought to Panbari Project Tiger Range Head quarters and statements were recorded wherein the accused admitted their crime.

The accused were produced before Sub-Divisional Judicial Magistrate (M) Bijini and were charged under Sections 9, 27, 29, 31 and 51 of Wildlife (Protection) Act, 1972. As the offence under Section 51 of Wildlife Act is triable by Court of Sessions, the learned Magistrate committed the case to the learned Sessions Judge Chirang after complying with the provisions of Section 208 of Cr. PC.

The Court has taken up a case to determine whether 09-02-2017 at about 1:30 PM at Manas Forest area near Sikhajahora under Panbari P.S accused person's hunted wild animal and birds, namely – 2 Nos. Mongoose (Schedule II), 3

numbers of Hare (Schedule IV), one number of Dove (Schedule IV), one number of Barbet (Schedule IV), and one number of Bulbul (Schedule IV) and the carcass of those wild animals and birds committed an offence punishable u/s 51 of the Wildlife (Protection) Act, 1972.

The dead animals and birds were examined by the Veterinary Officer Manas Tiger Project on 11-02-2017 and submitted his findings.

The defense counsel submitted that the accused persons have not entered the Sanctuary for committing hunting and they were apprehended on village road and therefore the provisions of Wildlife (Protection) Act, 1972 are not applicable. He further submitted that in this case the Forester filed the complaint and he is not listed in Section 55 of the Act and as such the cognizance against accused itself is bad in Law and the complaint is not sustainable.

On examination of the entire evidence on record the court found that the accused persons were apprehended by the authorities along with dead animals and birds. The accused admitted their crime before the Forest Official and also during their examination u/s 313 of Cr. PC. Section 9 of the Wildlife (Protection) Act, 1972 prohibited hunting of any animal specified in

Schedule I, II, III and IV. Section 9 of the Wildlife (Protection) Act has not mentioned the place of hunting. The Government of Assam amended the Wildlife (Protection) Act, in the year 2009. As per the provisions of the Wildlife (Protection) (Assam Amendment) Act, 2009 hunting outside the boundary is also included as offence punishable u/s 51 of the Wildlife (Protection) Act. The learned defense counsel submitted that the complainant has not filed the complaint as per provision of u/s 55 of the Wildlife (Protection) Act and as such cognizance taken in this case is bad in law. As per provision of the Wildlife (Protection) (Assam Amendment) Act, 2009 the offence u/s 51 of the Wildlife (Protection) Act, is cognizable, non-bailable and tryable by the court of Sessions. Hence, as per amended Act the provision of section 55 of the said Act is not applicable in Assam. Moreover the complaint filed by Forester-1. Regarding filling of complaint Assam Government vide notification No. FRW/35/87/Pt.I/68, dated: 04-03-1994 empower to file complaint by any Forest Officer not below the rank of Beat Officer/Forester as per provision of section 55 of the Wildlife (Protection) Act. In this case Forester-1 filed the complaint hence the court held that the complaint was duly filed as per provisions of Section 55 of Wildlife (Protection) Act.

The court held that the prosecution was able to prove that the dead wild animals from the

possession of the accused and hence presumption u/s 57 of the Act is drawn up, and hence the burden of proof lies on the accused. The court held that the accused persons violated the provisions of section 9, 39 and 49B of the Wildlife (Protection) Act. The Mongoose fallen under Schedule II, part II specified animals and other birds and animals fallen under Schedule IV specified animals. Hence, accused Sri Somnath Kisku and Sri Dhojen Tudu are found guilty u/s 51 (1) proviso of the Wildlife (Protection) Act, 1972. So, the accused are convicted u/s 51 (1) first proviso of the Wildlife (Protection) Act, 1972.

As per the Wildlife (Protection) (Assam Amendment) Act, 2009 the minimum punishment for the offence u/s 51 (1) first proviso of the said act is seven years and fine of Rs. 50,000/-. Hence, accused Sri Dhojen Tudu and Sri Somnath Kisku are convicted u/s 51 (1) first proviso of the Wildlife (Protection) (Assam Amendment) Act, 2009 and sentenced to undergo rigorous imprisonment for seven years each and fine of Rs. 50,000/- (Rupees fifty thousand) each, in default of payment of fine S.I. for another six months.

(The Judgement was delivered by Sri N.U. Ahmed, Additional Sessions Judge, Bijini, Bongaigaon District, Assam State in Sessions Case No. 200(CR)/2018 on 17-06-2019)

A CRY, IN THE WILDERNESS?

By
V. V. Hariprasad

He is a "**forester**",
One among the cursed lot,
By every Tom, Dick and Harry,
Who is bound to say umpteen "no s",
Be it for smuggling, poaching or even trespassing,
Who ekes out his livelihood by doing so
Whereas the society at large owes him a lot for that

In pursuit of discharging the duty
Number of "**Sreedhars**" among their fraternity lost their lives,
Attacked brutally by unscrupulous smugglers,
Whose sheer aim was to make a fast buck

Duty bound "**Anitas**" met with assaults,
Carried out by gullible masses and uncouth politicians,
Charged with culpable homicide not amounting murder,
After all in the legal parlance,
To the dismay of the forest fraternity
That was caught unawares,
While the politicians are shedding their crocodile tears,
Naturally having an axe to grind

This is high time that,
All sane people on earth should shout from the roof tops,
Addressing the masses at large,
The faceless multitude of the nations, by saying,
"My dear fellow human beings",
Gone are the days,
When all the life sustaining things were in abundance,

Available endowed by nature free of cost,

Days are not far off,
When we have to pay a lot even for quenching our thirst,
When we may have to stand in a "Q",
To purchase oxygen to meet our hourly requirement,
And also to keep our posterity alive,
When Climate change a Frankenstein monster,
Is looming large on our heads

Let all great souls pray for,
A forester's plea with a sense of duty and pride,
Writ large on his face,
Not to make him a scapegoat,
In the ruthless exploitation of the nature by all and sundry,
To come and join him,
To face the onslaught of climate change,
By striving hard to conserve nature,
An embodiment of God at all costs,
Not to become a cry in the wilderness
In all the days to come,
For ever, and ever and ever

(Dedicated to Sri Sreedhar a Dy. R.O and part of my fraternity who lost his life due to the brutal attack of RS Smugglers a few years back near Tirupati and Smt .Anita FRO a stubborn lady officer who was recently attacked by the forest encroachers in Adilabad district)

PLEASE SEE PAGE NO : 19

***Save the elephants, and then you save the
forest and then you save yourself.
(Mark Shand)***

OPERATION RETRIEVAL OF FOREST LAND OF GONDI BEAT IN KAGHAZNAGAR DIVISION A CASE STUDY

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 Asifabad District of Telanagana state bordering the state of Maharashtra. Rivers Pranahita and Wardha form the boundary of Kaghaznagar Division while Chandrapur and Allapally Divisions of Maharashtra state are on the other side of the rivers. Kaghaznagar has a forest area of 91,719 ha, which is 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: Kawal Tiger Reserve of Telanagama, Tadoba Tiger Reserve of Maharashtra, Indravati Tiger Reserve of Chattisgarh and thus has rich biodiversity of flora and fauna.

ENCROACHMENT PROBLEM IN GONDI BEAT FOREST: - 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) 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 warnings of the staff, an offence was booked against the culprits vide P.O.R. NO.1401/29 dated. 31.05.2019 vide (**Annexure – I**). 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 (**Annexure – II**) and the photographs of encroachment make the matter.

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 the Forest Divisional Officer (FDO) Sri. M. Raja Ramana Reddy. The FDO also made a detailed inspection of the area along with the F.R.O. He repeatedly warned the encroachers to leave the area as it is a forest land and forms a Tiger Corridor for the tiger **Phalguna**. It was made clear to them that they have no right 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.

EVICTON NOTICE TO THE ENCROACHERS:- If the department wants to proceed against the encroachers, a strong base has to be prepared with scientific evidence. For this purpose Google earth Maps (time line images) from the periods 2010 and onwards had been obtained. The FRO and staff under the guidance of the FDO were determined to get the encroachers evicted from the area under encroachment. As the principle of natural justice would require, the affected persons have to be given notices on the proposed action and they need to be heard. With a view to meet with this legal requirement, an eviction notice in the local language dated 19.02.2019 (**Annexure – III**) was served on each of the three heads of families and the contents were read over and explained to the concerned in the presence of witnesses. Similarly another notice dated 28.02.2019 (**Annexure IV**) was also served.

WRIT PETITION NO. 6101 OF 2019:- As there was no response to the notice dated 19.02.2019, a second notice was issued on 28.02.2019 and served in the same manner as it was done before. The encroachers viz. Sri Sidam Pavu and 6 others filed W.P. No. 6101 of 2019 (**Annexure – V**) assailing the notices issued to them and requested the High Court to direct the authorities to grant forest rights

under the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, even when they were not eligible as the cut-off date fixed in the act is 13.12.2005. The Government Pleader was requested by Letter dated 23.03.2019 (**Annexure-VI**) to oppose the Writ Petition.

The writ petition was posted for hearing on 25.03.2019. The FDO briefed the Government Pleader (G.P) on the merits of the case along with Google Maps. During hearing of the case, the counsel for the petitioners was asked to produce any authentic document creating any right or title to the petitioners. The counsel could not produce any document. In the circumstances, the Hon'ble Court was pleased to pass the following order (**Annexure – VII**) disposing the case at the admission stage itself: "In as much as Sub-Sections (3) and (4) of Section 20 of the Act provides that before taking any action, the officer concerned shall give an opportunity to the person affected to make any representation against the action proposed, I deem it appropriate to grant liberty to the petitioners to file their objections in response to the impugned notices, and on filing such objections, the respondents shall consider the same and pass appropriate orders in accordance with law, before taking any action against the petitioners. However, it is made clear that the respondents shall strictly adhere to the provisions prescribed under the Act."

In compliance with the directions of the Hon'ble High Court in WP No. 6101 of 2019, the FRO has adopted the due process of law and issued 3rd eviction notice on dated 13-04-2019 (**Annexure – VIII**) and subsequently 4th eviction

notice was also issued on 16-05-2019 (**Annexure- IX**) and while issuing notices to all the encroachers the officers have taken all the dated acknowledgements of the notices along with photographs. The encroachers were required to file their objections to the notices as directed by the court. They have filed a response dated 22.04.2019 in reply to the notice dt.13.04.2019 issued by the FRO. Their plea is that they are cultivating the land since 50 years and therefore they are eligible for the grant of forest right in the land under the Forest Rights Act. But the plea taken by the encroachers is without substance and without any recorded proof. The representation was rejected by an order dated 16.05.2019 (**Annexure-X**).

WRIT PETITION NO.11310 OF 2019:- Sri Sidam Pavu, S/o Lingu, aged 80 Years, Occ. Agriculture R/o Gondi Village and (6) others of Ankusapur Gram Panchayath Kaghaznagar Mandal Kumram Bheem District have again approached the High Court of Telangana and filed W.P No. 11310 of 2019 on 10.06.2019. They questioned the validity of the eviction notices and prayed for orders not to evict them without following the due process of law and to suspend the impugned notices. When the matter was heard, the Court asked the counsel for petitioners to produce any record in proof of their right to occupy the forest land. The Government Pleader vehemently argued the case on behalf of the respondents and placed all the facts relating to the case while the counsel for petitioners could not produce any authentic document. The application was therefore dismissed.

STRATEGY OF EVICTION:- Since ample opportunity was given to the encroachers to put up their defense, it was decided to evict them from the forest. The decision was conveyed to the District Administration for necessary help. On the request of the District Forest Officer, the District Collector convened a coordination meeting with the Superintendent of Police and other officials on 10.06.2019 and decided on the action plan. It was emphasized the need for cooperation and coordination of the local police, Revenue officials in the 'operation retrieval of forest land'. A letter was addressed by Forest Divisional Officer to Revenue Divisional Officer, Kaghaznagar (**Annexure-XI**) seeking help and co operation.

After completing all the formalities as required by law and in due compliance of the orders of the High Court dated 25.03.2019 in W.P.No.6101 of 2019, **eviction process was started in a peaceful manner on the morning of 12.06.2019** with men and women staff and with the help of Police Officials in Compt. No 66 of Gondi Beat of Kaghaznagar section of Kaghaznagar Range in the presence of Revenue Officials after drawing up a *panchanama*. (**Annexure-XII**). The fact was reported to the High Court through the Government Pleader on 12.06.2019 (**Annexure-XIII**).

The eviction was executed in a peaceful manner with utmost care and without use of any force. Having realized that the eviction is imminent, the encroachers themselves have packed up their belongings including their clothes, utensils Etc. With a view to provide shelter to the oust'ees, all of them were shifted safely to the Government Timber Depot, Common Facility

Centre (CFC) Vempally and provided temporary rehabilitation with all the basic facilities including food, water, medical check-up etc. They were free to move about. It was like a 'refugee's camp.' Some of their children were also admitted into the Government Tribal Welfare School in consultation with District Tribal Welfare Officer, Asifabad. One of a girl child, who was suffering with chronic disease, was sent to Warangal and RIMS Adilabad for proper medical treatment.

The Forest Divisional Officer, Kaghaznagar made a report to the Conservator of Forests, Adilabad Circle, Adilabad, District Forest Officer, KB-Asifabad, District Collector, Project Officer, Integrated Tribal Development Agency (PO ITDA) and Revenue Divisional Officer, Kaghaznagar and requested them for extending support in rehabilitating these families and providing necessary assistance under available Government schemes to the 16 families which includes (16) men and (15) women and (36) children, who were natives of Nagargutta, Kirdi, Dongergoan, Savathi, Chopanguda, Jaragudem, Boddipatar and Dorli of Wankidi mandal. On 13.06.2019, the PO ITDA deputed the District Tribal Welfare Officer to the Government Timber Depot. He interacted with the tribals lodged there and told them that, they will be provided with all facilities under the Government schemes if they move to their native place Wankdi which is within the jurisdiction of ITDA. The plan was discussed with the elders and about (16) families have agreed to return to their native places at Wankidi.

HABEAS CORPUS PETITION:-As the matter stood thus, one Prof. Gaddam Laxman, S/o

Balaiah, posing himself as the President, Civil Liberties Committee of Telanagana, residing in Uppal (Hyderabad) filed a Public Interest Litigation (PIL) (**Annexure-XIV**) in the High Court of Telangana on Saturday 15.06.2019. The petition was taken on file as Habeas Corpus Writ Petition No.11946 of 2019, alleging the action of forest officers as illegal detention. It is prayed for producing the detenues before the court; It is further prayed that criminal and departmental action should be initiated against the respondents. The following officers were impleaded as respondents:

1. The State of Telangana, Rep. by its Principal Secretary, Home Department, Hyderabad.
2. The State of Telangana, Rep. by its Principal Secretary, Forest Department, Hyderabad.
3. The State of Telangana, Rep. by its Principal Secretary, Tribal Department, Adilabad.
4. The Forest Range Officer, Kaghaznagar, Adilabad District.
5. The Forest Divisional Officer, Kaghaznagar, Adilabad District.
6. The Project Officer, ITDA Uttoor, Adilabad District.
7. The Station House Officer, Kaghaznagar, Adilabad District.
8. The Superintendent of Police, Komarambheem (Adilabad) District.

The High Court Bench comprising the Hon'ble Ag. Chief Justice (as he then was Sri Raghavendra Singh Chauhan and The Hon'ble Justice Sri Shameem Akhthar heard the Counsel for the Petitioner on Saturday 15.06.2019 and having perused the records submitted on behalf of the Respondents, formed house Committee and directed that all the respondents (**vide Annexure- XV**) especially Respondent No. 4

and 5 to produce 16 family heads before the Bench at the bungalow of the Ag. Chief Justice on **SUNDAY** 16.06.2019 by 5:00 P.M at Hyderabad to show cause whether the Forest Range Officer, Kaghaznagar and Forest Divisional Officer, Kaghaznagar have illegally detained tribal families. The news was widely highlighted in all the newspapers of Sunday dated 16.06.2019. The court sought the assistance of two professors of Osmania University viz. Sri Jayadheer Tirumal Rao and Smt. Manoja. They were requested to interact with the tribals alleged to be under detention and ascertain from them if they had gone to the timber depot voluntarily or under force by the officials. If the professors feel any difficulty in communicating with the alleged detenues, they were given freedom to engage a person who could speak the tribal language and translate it into Telugu or English. The Bench prima facie felt that all the tribals were illegally detained at the timber depot. The orders of Hon'ble Court are furnished as (**Annexure – XVI**).

The entire forest department was shocked and felt stressed of the situation as it is the first of its kind. The Forest Divisional Officer, Kaghaznagar assisted by his staff asked all the 16 tribal family heads to get into an A/C bus on 16.06.2019 to go to Hyderabad and they were told that they have to appear before the High Court.

FINAL HEARING OF THE CASE:- The Bench met on Sunday 16.06.2019 at 5PM at the residence of the Ag. Chief Justice, while a battery of media persons waiting outside, taking pictures and recording videos. There was

tight security arrangement. The tribals, Pleaders and the two professors appeared before the Bench. The Bench interacted with tribal family heads; on behalf of Forest Department, only the Sri M. Raja Ramana Reddy, Forest Divisional Officer, Kaghaznagar was ushered into the chambers during the hearing. When his turn came, the FDO explained to the Bench the background of the encroachment and modus operandi of clearing the jungle for cultivation. The FDO produced the Google Time live Series Maps to show that the first encroachment took Place in 2013 and extended the cultivation extent by bringing in more encroachers. The FDO submitted that the forest around is dense and consists of rich biodiversity; it forms corridor for tigers not only from within the state but also across the borders from Maharashtra and Chhattisgarh.

The court enquired from Mr. Dilip Kumar Tribal Welfare Officer and the plans to rehabilitate the tribals ousted from the forest. It was observed after hearing the District Tribal Welfare Officer Mr. Dilip Kumar and the Forest Divisional Officer Mr. Raja Ramana Reddy that dwelling houses are not constructed although the land for farming is identified. The petitioner requested the court to permit the tribals to continue to live in the same land; but it was not acceded.

The Bench heard the arguments of the petitioner's Counsel as well as the Government Pleader for Home and Government Pleader for Forest and passed order with directions to the District Collector and the District Tribal Welfare Officer to allot land for cultivation and construct houses fixing a time bound programme. Order of the High Court in the Habeas Corpus Petition

dated 16.06.2019 is furnished as

CONCLUSION:- Smt. Sobha, IFS, Prl.CCF, Sri. Munindra, IFS, Addl. PCCF, Sri. P. Vinod Kumar, IFS FDPT, Nirmal and I/C Conservator of Forests of Adilabad Circle, following up the proceedings of the case and eagerly waiting for the outcome, were happy; and they all complimented the FDO, Kaghaznagar Sri M. Raja Ramana Reddy and his staff. Finally Sri P.K. Jha, IFS. Principal Chief Conservator of Forests and Head of Forest Force of Telangana State is the source of the inspiration and he is the strength behind the **"operation retrieval of forest land of Gondi beat in Kaghaznagar division"** and its achievement. It is a rare case in which the High Court Bench met on a Saturday evening and also on Sunday evening to enquire into the allegations made in the Habeas Corpus Petition. Fortunately the Court did not find fault with forest officers for evicting the encroachers from the forest land and upheld action of the forest department in evicting tribal from Reserve Forest land on 12.06.2019.

Many forest officers of Maharashtra over WhatsApp complimented Sri M. Raja Ramana Reddy, Forest Divisional Officer, Kaghaznagar and his Staff for the achievement of successful eviction. One of the encomiums was interestingly something to the following effect: An encroachment into the forest is like cancer in the human body and the forest officer who successfully evacuates the encroachers can be said to be a doctor who did surgical operation. All the encroachers have been sent to Wankdi under the supervision of FRO Kaghaznagar. All is well that ends well. It must be said respectfully that the judgment is topical and revealing.

ARE BIG DAMS BLESSING OR CURSE

By
V. S. JOSHI

India since independence like many other advanced countries of world opted for construction of big dams over major rivers thereby creating huge water reservoirs for meeting needs of adequate supply of water to fast growing urban and industrial areas of country, irrigation of water starved agricultural fields and also power generation. Dams at Bhakra Nnagal and Hirakud in northern India are earlier examples of this achievement. India's first Prime Minister Jawaharlal Nehru used to refer to them as India's new sacred places. This trend has continued unhindered since then till this date. And number of big dams had been constructed so far all over the country. Latest in this series being huge Sardar Sarovar dam in Gujarat state. No doubt this approach was necessitated out of compulsions and necessities of time, however certainly it wasn't adopted by having total perspective and holistic vision of the issues involved. And this has led to very alarming and disastrous calamities being caused to nation as a whole.

As it is proven fact that hilly terrains of entire catchment area of the dam, which are supposed to ensure perennial supply of water for the reservoir, must have adequate vegetative cover so as to be able to hinder the rush of down flowing rain water along its slopes doesn't carry any silt with it into reservoir. Unfortunately this aspect has never received serious attention of

our water resources planners as it should have. In absence of retention of vegetative cover over catchment area the accumulated and hardened silt into reservoir over period of time eventually turns them into reservoir of silt than water. Thereby drastically depleting their water holding capacity, and eventually making them redundant for their intended utility. This has happened in case of all reservoirs where such precaution with due diligence hasn't been exercised. The option of dredging out the accumulated silt in reservoir has always been most impracticable task to accomplish unless the large quantity of water in reservoir gets emptied.

The big earthen dams have always posed great threat of their breaching during heavy incessant rainfall and accumulation of water beyond their holding capacity in such reservoirs. It was during year 1960 that big earthen dam at Panshet in Pune district of Maharashtra state breached and gave way to rushing water to accumulate in downstream cement concrete Khadavasala dam that too was breached and torrents of uncontrolled water flooded all low lying areas of Pune city during midnight causing immense loss of property and human life. The recent breaches of earthen dam at Tivare in Ratanagiri district of Maharashtra caused death of 23 unsuspecting villagers in nearby areas. So also, recent finding

of multiple leakages in cement concrete dam at Temghar near famous Lavasa hill city in Pune district of Maharashtra is waiting for a major disaster to happen in spite of frantic efforts to seal these leakages by grouting.

The downstream part of once free flowing life sustaining perennial rivers, equally benefitting population residing on both of their banks, over which big dams are built are turned into canals to be manually controlled that often results into unending wars between the beneficiaries concerned, may be cities, farmers or states for their rightful share of water. Many times such canals are turned into pathetic sight of pitiable streams during drought periods.

Now the most crucial question is whether there exists any viable alternative to the big dams. Incidentally during formative years of independent India, a very innovative proposal was mooted by one renowned Indian construction firm about creating looped water grid system by interlinking major Indian rivers thereby allowing excess water from flood prone rivers like Brahmaputra from northern India to rivers in drought prone southern India. Though this proposal was also capable of creating large scale employment generation besides solving water woes to great extent, unfortunately the same couldn't find favour with the then Government of India. It is hoped that it may see light of the day at least during the present ruling political dispensation of country.

Thankfully, Government of Maharashtra has recently collaborated with an Israeli firm Mekorot to create such looped water grid system

by interlinking 11 existing dams in 13000 villages of drought prone Marathwada region of Maharashtra state to be completed by year 2050 at the total financial outlay of Rs 10000 Crores, thereby benefitting 3 Crores water starved population of this area. Implementation of such projects in drought prone areas of other states will allow better utilization of available water resources of the existing dams.

The Government Maharashtra has also embarked upon another ambitious project of Jalyukt Shivar Abhiyan (Water inclusive village development) since year 2015-16 wherein small earthen cum stone bunds will be built over all streams and brooks in hilly terrain of all villages (including forest areas) in Maharashtra for very crucial conservation of soil and moisture at micro level. The evaluation of 10% of such works carried out under this project during year 2016-17 in 122 villages of Pune district was undertaken by Sevanivrutt Van Karmachari Sangh, Maharashtra and very encouraging impact of this scheme in terms of augmentation water levels of wells in the concerned villages was found to be quite noticeable. Such schemes if sincerely implemented by all states in country will certainly prove to be a blessing in the long run.

As far as power generation is concerned, the viable and feasible options of nuclear, solar and wind power generation are always available. Thus it will be quite prudent to ponder over desirability and utility of big dams in water resources management of our country.



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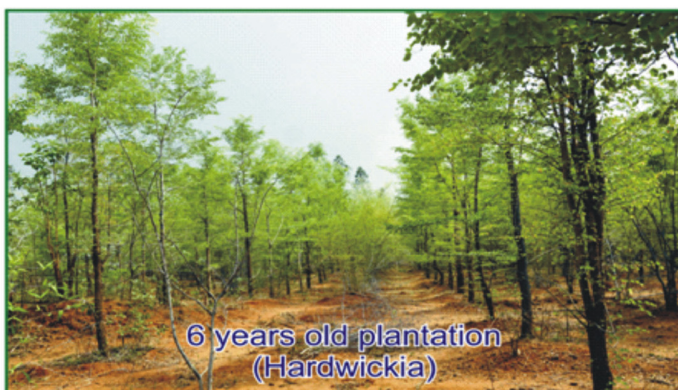
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Rehabilitation of RF land (Non mandated)

- 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.
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THE SINGARENI COLLIERIES COMPANY LIMITED

(A Government Company)
Telangana State

INSECT AND ITS IMPORTANCE IN NATURE

By

S.Umesh Kanna, N.Krishnakumar and R.Ramamoorthy

INTRODUCTION:- Insects, as drivers of ecosystem functions, play a major role in agro-ecology, the management of agricultural systems in an ecologically sound and sustainable way by encouraging ecosystem services (ES) provided by beneficial organisms. In Forest ecosystems insects play key ecological roles in diverse ecological processes such as nutrient cycling, seed dispersal, bioturbation, pollination, and pest control. Diversity is a central characteristic of natural ecosystems and facilitates these systems to be resilient and able to survive major changes. This biodiversity found in natural ecosystems can also be the key to sustainable production. Insects perform many roles within forests as pollinators, herbivores, carnivores, decomposers, and food sources for other organisms. As a group, they are the most abundant and important group in the phylum Arthropoda. They are estimated to account for more than 80% of all known animal species and have been around for a long time, with fossil specimens of forest round headed borers having been found from 35 million years ago. Most are innocuous or beneficial to human existence, though they are more commonly known for the few species that irritate us directly or are harmful to the plants. Understanding the function of insects in ecosystems will enable us to recognize their importance in the sustainable functioning of our Forest ecosystem and their role in future conservation.

INSECT:- Insect, (class Insecta or Hexapoda), any member of the largest class of the phylum Arthropoda, which itself is the largest of the animal phyla. Insects have segmented bodies, jointed legs, and external skeletons (exoskeletons). Insects are distinguished from other arthropods by their body, which is divided into three major regions: (1) the head, which bears the mouthparts, eyes, and a pair of antennae, (2) the three-segmented thorax, which usually has three pairs of legs (hence "Hexapoda") in adults and usually one or two pairs of wings, and (3) the many-segmented abdomen, which contains the digestive, excretory, and reproductive organs.

INSECTS DIVERSITY:- Arthropods have existed for more than 400 million years and survived the Permian and Cretaceous mass extinctions. Insects have been hugely successful in terms of both species richness and abundance and insects and terrestrial arthropods are seen to be the largest contributors to species richness. Insects account for approximately 66% of all known species, constituting more than three-quarters of today's global biodiversity. There are about 1 million species of known insects, but only around 7% - 10% of insects are scientifically described. Since many insect species are not yet identified, it is estimated that there could be around eight million species of insects on earth. Some authors estimate all

insects to be around a mean of 5.5 million species and a range of 2.6 - 7.8 million. The total number of insect individuals is estimated 10^{18} - 10^{19} . In terms of biomass insects also dominate with 150 to 1 500 kilos of insects for each human being. There are 39 insect orders, with the most speciose group represented by the Beetles (Order: Coleoptera). Beetles alone account for around 40% of all described arthropod species, with an estimate of 1.5 million beetle species. The reason why there are so many species of beetles is reflected in the Jurassic origin of numerous modern lineages, high lineage survival, and diversification into a wide range of niches, including the utilization of all parts of plants.

IMPORTANCE IN NATURE: - Insects are so robust and widely distributed on the earth. Some of the insects are harmful as they cause

diseases like malaria, elephantiasis. While others like lice and bed bugs act as external parasites to humans. But interestingly, some insects are also very useful to humans.

i. Insect as Food

Many insects are consumed as food by humans. This eating of insects is called entomophagy. Insects are rich in protein and also little amounts of unsaturated fatty acids, vitamins, and iron. Hence, insects like House cricket, European migratory locust and Meal-worms are grown in industrial mass production. Beetle worms in between the bread burger. It is said to be nutritious and delicious. The processed food produced in North America, Europe, and Canada includes insect burger, insect bread, insect flour, etc. Though the insect's food is nutritious, there are some disadvantages. Sometimes, these insects can accumulate heavy metals, pesticides, and harmful bacteria.

Order of insect	Common name	Consumption rate (%)
Coleoptera	Beetles	31
Lepidoptera	Butterflies, moths	18
Hymenoptera	Bees, wasps, ants	14
Orthoptera	Grasshoppers, locusts, crickets	13
Hemiptera	Cicadas, leafhoppers, planthoppers	10

Insect food products

The following processed food products are produced by several producers in North America, Canada, and the EU:

- *Insect flour:* Pulverized, freeze-dried insects (e.g., cricket flour).

- *Insect burger:* Hamburger patties made from insect powder / insect flour (mainly from worms or from house cricket) and further ingredients.

- *Insect fitness bars:* Protein bars containing insect powder (mostly house crickets).

- *Insect pasta*: Pasta made of wheat flour, fortified with insect flour (house crickets or mealworms).
- *Insect bread*: Bread baked with insect flour (mostly house crickets).

ii. Insect as Medicine

Though insect therapy is used in other streams

of medicine, modern medicine has limited uses. But still, some insects are used for medicine like Honey bee venom which has peptide melittin which helps to treat inflammation of rheumatoid arthritis. Some of the uses of insect as medicine is listed below

S.No	Common Name	Scientific Name	Disease Treated
1.	Locust	—	Post childbirth anemia, lung diseases, e.g., asthma and chronic cough
2.	Pod borer	<i>Helicoverpa armigera</i>	Panacea
3.	Weevil		Stomach pains
4.	May beetle	<i>Melolontha vulgaris</i>	Scratches, anemia, rheumatism
5.	House fly	<i>Musca domestica</i>	Eye cysts, baldness
6.	Cicada	<i>Huechys sanguinea</i>	Migraine headache, ear infection
7.	Red velvet mite	<i>Trombidium grandissimum</i> aphrodisiac	Malaria, urogenital disorders, paralysis,
8.	Cattle tick	<i>Boophilus microplus</i>	Chickenpox
9.	Ground beetle	<i>Scarites spp.</i>	Suture wounds
10.	Peanut beetle	<i>Palembus dermestoides</i>	Asthma, arthritis, tuberculosis, sexual impotence
11.	Ghost moth	<i>Hepialus obliifurcus</i>	Fortifier
12.	Giant skipper	<i>Aegiale hesperiaris</i>	Rheumatism, aphrodisiac
13.	Palm beetle	<i>Pachymerus nucleorum</i>	Earache
14.	Mud wasps	<i>Synagris spp. and</i> <i>Sceliphron spp</i>	Provide lime to the fetus
15.	Stingless bee	<i>Trigona spinipes</i>	Cough, Acne

iii. Insect as Silk cloths

Silk is a natural protein fiber obtained from the silkworm. It is shiny, smooth and soft fiber. This fiber is used in making beautiful clothing material. In summers, it absorbs sweating and in winters it gives warmth. Further, it protects from

blood-sucking insects like mosquitoes as they cannot pierce the silk cloth. Its beauty and other properties make it an expensive cloth. The industry which relies on this is called sericulture. Further, a modified form of silk threat is used as a nonabsorbable surgical

suture.

iv. Insect as Lac

Lac is produced from lac insect. This lac is a resin secretion. It is used as a sealing wax for envelopes. It is also used in making skin cosmetics, wood finish and dye. Rarely toys and other valuable products are produced from it.

v. Insect as Pest control

Insects are used for pest control. There are two types like predators and parasitoids. Predators are those insects which consume other insects. Example: Lady beetles consume mites, caterpillars, termites etc. Parasitoids are those insects which lay their eggs on the surface or inside the other insects. From the eggs, larvae emerge and feed on the host insect killing it. Examples of these are the wasps which use caterpillars as host. Thus these ladybugs act as pest killers to save the crop from destruction.

vi. Insect as Scavenger

Many insects eat up or carry away dead and decaying matter. Thus they consume them and clear of any waste matter from the environment. Ex: ants take away and feed on dead insects, larva,

lizards, etc. Dung beetle carrying away human waste in the form of a ball even you might have noticed dung beetles carrying away spherical balls by rolling. These balls are either human waste or dung of cattle. They make them into balls and carry away home to eat. Thus they help clean the environment.

vii. Insect as Food for other animals

Many insects live on grass and plants for food. But in-turn they become prey to many birds, amphibians, fishes, lizards, and other animals. Thus they act to supply food to the members of the food chain. Hence we can notice that during or around rainy season, many insects reproduce and multiply a lot. At the same time, many birds go for hatching their young ones. This time is very suitable as the mother bird can feed its babies with vastly available insects.

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*The world's forests are a shared stolen treasure that
we must put back for our children's future.*

(Desmond Tutu)

TRIBAL ECONOMY - ROLE IN FORESTRY

By

N. Krishnakumar, K.T.Parthiban, S.Umesh Kanna and C.Cinthia Fernandaz

The sources of subsistence and livelihood are varied so far the Indian tribals are concerned. Starting from the pure and simple parasitic habit of the nomadic hunters and food-gatherers who depend mostly on nature for the sources of subsistence to the settled agriculturists and the group of industrial laborers, we have the views of different economic set-up the Indian tribals.

TRIBAL ECONOMY

The tribes and primitive societies have passed through several stages of economic development. There are four important stages which have been identified in the economic development of tribals viz.,

- Hunting and food gathering stage
- Pastoral and pre-agricultural stage
- Agricultural stage
- Post agricultural stage

The tribal economy type includes forest hunting types, hill cultivation type, plain agricultural type, simple artisan type, pastoral and cattle Herder's type, Folk Artist type, Agriculture and Non-agriculture types, Akilled white collar Job, traders type.

ROLE OF FORESTRY IN TRIBAL ECONOMY

i. Direct Employment: -

Forests provide a wide spectrum of livelihoods for tribal communities in the form of direct employment, self employment and secondary employment. The direct employment is provided by the forest department and other

departments (rural development, agriculture and co-operatives) in the form of managerial, technical, research, planning and executive jobs.

The other direct employments consisted of labour force for rural masses generated by these departments under regular forestry activities such as growth, development and maintenance of the forests, research and training, survey of forest resources, protection and conservation of forest resources, soil **and** water conservation, civil construction such as forest road, bridges and culvert, harvesting, collection, processing and marketing of NTFPs, preparation of nurseries, fencing, soil working, transplanting, planting, tending operations, watering, fertilizer and pesticide application, protection and management of plantation and **infrastructure** development. This gives much needed additional income to the tribals.

ii. Forest-Based Industries

The self employment in forestry creates livelihoods for local people through the sale of fuel-wood and fodder, grazing, lopping and grass cunning, forest-based handicrafts and cottage industries, sericulture, lac cultivation, bee keeping, charcoal burning, leaf plate making, liquor making, rope making and basketry, medicines, collection, processing and marketing of NTFPs, cultivation of agricultural crops under agri-silvicultural practices,

livestock rearing, social and farm forestry, and availing of rights and concessions. The application of local skills and village-level technology in wood-based and small-scale forest-based enterprises provides secondary employment and livelihood opportunities for tribal people; main amongst them are saw milling, rayon, pulp and paper, ply wood and panel products, wood seasoning and preservation, tanning, sports goods, match splints, veneers, wooden boxes, bamboo and cane products, agricultural implements, furniture, structural wooden items, musical instruments, bidi making, educational goods, wood carving, wooden utensils, etc. Some of the tribes have started small-scale and cottage industries such as bamboo cane and allied products, hand-made paper, tendu leaves, distillation of essential oil, katha manufacturing, charcoal making, starch making, tassar product, bee keeping, lac propagation, broom making and miscellaneous products.

iii. Collection of NTFP

Forests provide significant social and economic benefits at all levels, especially in developing countries. Economics of people living in forest fringes has traditionally been dominated by subsistence agriculture.

NTFP such as fuel wood, medicinal plants, wild edible-vegetables, house building materials, fodder, fuel wood, mahua flowers (*Madhuca indica*), tendu leaves (*Diospyros melanoxylon*), wild mushrooms, tamarind (*Tamarindus indica*), soap nuts (*Sapindus emarginatus*), and wild brooms are an integral part of day-to-day

livelihood activities, especially for tribal people. Forest products also can be used as raw materials for making a number of items for the home such as bidi, brooms, baskets, mats, rope, home-made toothbrushes and leaf plates. Some forest products such as charoli (*Buchanania lanzan*), lac (*Laccifer lacca*), dataoon as a teeth cleaning, leaf plates, and marula fruit (*Sclerocarya birrea*) are sold for a small cash income, which is sometimes used for buying clothing, oil or spices. These products may be used for subsistence or for sale, providing cash income. More than 500 plants are being significantly used by the tribals as food, dyes, tannins, drugs, narcotic, drinks, housing instruments, weapons, fibres, medicine, etc! Thus, the NTFPs play a significant role in the livelihood of the forest dwellers and the communities living in the vicinity of the forest.

iv. Forest Right Act

The STs and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, is a key piece of forest legislation passed in India on 18 December 2006. It has also been called the Forest Rights Act (FRA), the Tribal Rights Act, the Tribal Bill, and the Tribal Land Act. The law concerns the rights of forest-dwelling communities to land and other resources, denied to them over decades as a result of the continuance of colonial forest laws in India.

v. Ecotourism in Protected Areas

The country has a large treasure of natural beauty, and archaeological and architectural monuments. In addition, there are many hill and beach resorts, mountains, rivers, etc. The

northern part of India is famous for its hills, plains, rivers, monuments, etc. - the Himalayas, Kashmir Valley, and the Ganges. There are colourful tribal lifestyles of the Northeastern States of Nagaland, Mizoram, Tripura and Manipur, with their folk culture, which also is worth mentioning. In the Central Indian States of Odisha and Madhya Pradesh, tribal village life has resulted in a variety of artistically-executed handicrafts. India has a huge ecotourism potential and this can be adjudged from this data that the country is having 634 nature-endowed areas, 103 national parks, and 531 wildlife sanctuaries (Ministry of Environment and Forest, 2015). Topography of homeland boasts of an abundant source of flora and fauna, and has numerous rare and endangered species in its surroundings. It is one of those rare countries, which has a wonderful blend of all the resources essential to make it as a golden star on the tourism map of the world.

Ecotourism, in simple terms, means management of tourism and conservation of nature in a way so as to maintain a fine balance between the requirements of tourism and ecology on one hand and needs of the local communities for jobs, new skills, income-generating employment and a better status for women on the other. Tourism has long played an important role in the Indian economy as being the third most important industry sector of national economy. Within the tourism industry worldwide, ecotourism is one of the fastest growing sectors. The World Tourism Organization (WTO) has recently estimated that ecotourism

is worth some \$20 billion a year, and together with nature-based tourism, accounts for 20% of global international travel (WTO, 1998).

Positive impacts of tourism on indigenous populations in India in terms of economic growth and development (jobs and business opportunities); increased government expenditure on tourism infrastructure such as improvements of roads, water supply and sewage treatment, electrical facilities, education, communication that may also benefit residents and direct and indirect benefits due to tourism activities in tribal areas. Tribal people provide the services as guidance and interpretation, sightseeing, forest watcher, ecotourism enterprises such as sale of handicrafts, etc.

vi. Joint Forest Management (JFM)

The most significant aspect of the National Forest Policy of 1988 is that it calls for the involvement of the forest-dwellers, tribals and the neighboring communities of the forest in the management of the forests. Joint Forest Management (JFM) is a management tool intended to protect the forests and manage the non-wood resources of forests in a sustainable manner with the active participation of **forest**-dependent communities ensuring their livelihood needs. Forest-dependent families are the members participating in the planning and implementation of various forestry and community-development programmes.

JFM originated in West Bengal at the Arabari Forest Range in West Midnapore, near

Midnapore town in 1971. The major hardwood of Arabari is sal; a commercially-profitable forest-crop was grown with active participation of the local people. A few years later in 1977, JFM was employed in the State of Haryana to prevent soil erosion and deforestation. The program led to reforestation of many hills in the State. After the initial successes in West Bengal and Haryana, the JFM schemes received national importance in the legislation of 1988 and thrust in the Guidelines of 1990.

In India, JFM has emerged as an important intervention in management of forest resources. In many parts of India, small **village** groups have started to protect and reclaim degraded forest lands through collective action. The JFM Programme seeks to develop partnerships between local community institutions and State forest departments for sustainable management and joint benefit sharing of public forest lands. The primary objective of JFM is to ensure sustainable use of forests to meet local needs equitably while ensuring environmental sustainability.

vii. Development of Agriculture Though the people had changed their cultivation pattern

from traveler's cultivation to settled cultivation, agriculture is still the most primitive occupation of the tribal people. The technology is transferred to them without affecting their sentiment. A number of appropriate technologies are generated by the government and have become sustainable under their farming system.

viii. Tribal Development Schemes and Programmes

Government of India implemented different schemes through forest departments such as National Afforestation Programme (NAP), National Bamboo Mission (NBM), schemes for the welfare of STs living within the forest, Tribal Insurance Scheme (TIS), Forest Right Act 2006, Green India Mission (GIM), gas cylinder on subsidy, ecotourism, National Medicinal Plant Board Scheme, schemes of social forestry such as Kotwalia schemes, Malki plantation, Food grain, and Social security scheme.

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***A nation that destroys its soils destroys itself.
Forests are the lungs of our land, purifying
the air and giving fresh strength to our people.
(Franklin D. Roosevelt)***

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		8.	Smt.Sunita J.Mahesh Bhagwat	26-08-1970
1.	P.Rajendranath	10-08-1953	9.	S. Srikanthanatha Reddy	25-08-1974
2.	M.Mohan Rao	12-08-1952	10.	B.Srinivas	02-09-1962
3.	L.R.Sekhar	13-08-1953	11.	V.Ram Mohan	06-08-1967
4.	K.Suryanarayana	15-08-1952	12.	A.Narsimha Reddy	08-08-1983
5.	V.Kishan	16-08-1950	13.	T.Venu Babu	09-08-1969
6.	M.Pradyumna Reddy	23-08-1955	14.	A.Rama Murthy	10-08-1969
7.	N.V. Jayanti Babu	23-08-1953	15.	S.Venkatesh	15-08-1977
8.	A.Sudhakar	24-08-1948	16.	Smt.P.Sunitha	15-08-1980
9.	D.Basavasankar Rao	25-08-1955	17.	M.Venu Madhav Rao	16-08-1967
10.	P.Vishweshwaraiah	27-08-1951	18.	Ch.Sivaiah	20-08-1967
11.	C.Muralidhar Rao	28-08-1941	19.	S.Rajasekhar	20-08-1970
12.	P.Ranga Raju	30-08-1952	20.	I.Kasi Viswanadha Raju	20-08-1967
13.	T.V.Ranga Rajan	31-08-1935	21.	S.M.Hussainy	20-08-1961
14.	M.Narasimha Reddy	02-09-1954	22.	Smt.P.N. Adilakshmi	23-08-1970
			23.	Ms.E.Harika	24-08-1984

S.No.	Name of Serving Officers	D.O.B.			
1.	Ananth Shankar	07-08-1988	24.	P.Anil Kumar	30-08-1965
2.	Smt.M.Revathi	09-08-1970	25.	K.Ashok Kumar	31-08-1976
3.	P.S.Srinivasa Sastry	14-08-1962	26.	M.Ravi Prasad	04-09-1966

4.	A.Bharath Kumar	15-08-1959
5.	Sunil Kumar Gupta	19-08-1958
6.	Sivala Ram Babu	21-08-1980
7.	Dr.V.Bhaskara Ramana Murthy	24-08-1961



Secretary

NEWS AND NOTES

“Wanted To Do Something Good”: Assaulted Telangana Officer Breaks Down By Uma Sudhir

The officer has identified Koneru Krishna, the vice chairman of the Zila Parishad, who is also the brother of the local legislator Koneru Konappa.

1. Forest officer C Anita was planting trees at a depleted forest area
2. Videos showed her being accosted by a mob as she tried to pacify them
3. The men landed blows on her with huge wooden sticks

Telangana forest officer C Anita, who was assaulted by the local leader of the ruling party when she went to plant trees at a depleted forest area in Komaram Bheem Asifabad district, today, broke down while recounting the attack. She was released today from the hospital where she had been admitted after sustaining severe injuries in the attack.

Cellphone videos from the area showed the officer being accosted by a mob as she stood on a tractor, trying to pacify the mob. Even as she stood there, men armed with huge wooden sticks surround her and land blows on her and the tractor that she is standing on. “I came all this way through my sheer hard work, studied in a government school and had the intention to do something good for the society. I have respect for my uniform. All the respect was to do something for people by wearing the uniform. And I was assaulted. I strongly condemn this,” she told the reporters, breaking down.

“Even animals are not thrashed this way,” Anitha was quoted by Press Trust of India as saying at the hospital after the incident.

The officer has identified Koneru Krishna, the

vice chairman of the Zila Parishad, who is also the brother of the local legislator Koneru Konappa.

Koneru Krishna stepped down from the post yesterday, but it was not an act of regret or remorse. He said he was protesting against the “injustice to farmers”.

Today a huge protest rally of forest officers in Kagazhnagar demanded protection for forest officers. The IFS association has also condemned the incident. The National Commission for Women too has sought a report from the state police chief in the matter.

The land, where the afforestation programme was being held, was being illegally cultivated by some tribals. But as part of the prestigious Kaleshwaram project, the government had reclaimed it and marked it for compensatory afforestation — mandatory after such infrastructure projects.

The area has been tense over the acquisition and anticipating trouble, the officer had gone with 30 policemen and 30 forest guards. Asked why they were unable to protect her, district police chief Malla Reddy said “We will have to inquire. But firing in such circumstances may have been disproportionate”.

The state police chief ordered suspension of the DSP and Circle Inspector of the area for alleged inaction.

Sixteen people, including Koneru Krishna, have been arrested and more are likely to be taken into custody, Mr Reddy told NDTV. A case of attempt to murder and obstructing forest officer from performing duty has been filed.

KT Rama Rao, state minister and son of Chief

Minister K. Chandrashekar Rao tweeted: "I strongly condemn the atrocious behaviour of Koneru Krishna who attacked a forest officer who was doing her job. He has been arrested & a case booked already; no one is above law of the land". Meanwhile, another video on social media showed the legislator Koneru Konappa, talking to some tribals and instructing them to tell the media that they were being harassed by the police for the last few days and had sought Koneru Krishna's help.

In another video, another woman officer who was part of Chole Anitha's team is seen saying that even after the attack, they were threatened by the legislator and his men in presence of the district police, to leave the place "without creating trouble".

Environment Minister Prakash Javadekar has said the Centre taken the assault seriously and made it clear that such incidents "cannot be tolerated". "We are taking it very seriously because it cannot be tolerated. We as regulators will do whatever is possible," he told the Rajya Sabha today.

Tiger spotted in Kedarnath at 3,400m

altitude: - The present spotting of tiger at 3,400m is likely to be the highest in the country. A tiger was caught on camera in the Uttarakhand's Kedarnath Wildlife Sanctuary at an altitude of 3400m (approximately 11,154 ft) above mean sea level, officials said on Wednesday.

The tiger was spotted on May 26 at 2:38 am in a valley that falls under the Kedarnath forest division. The sighting of the tiger at this unusual height indicated that the big cat was changing its habitat, said experts. "We had put camera traps in this area at a height of around 3500m and the tiger was spotted at a height of 3400m. Tiger are generally found in low altitude areas,

and such a sighting clearly shows that tigers are changing their habitat," said Amit Kanwar, divisional forest officer, Kedarnath.

In 2016, a tiger was spotted at 3274m (approximately 10,741 ft) in Askot in Uttarakhand. Arunachal Pradesh and Sikkim have also reported the presence of big cats at similar elevations. India is home to 2,226 tigers, according to the All India Tiger Estimation, 2015. The present spotting of tiger at 3400m is likely to be the highest in the country. Before this, a tiger was spotted at 3274 m in Askot landscape in March 2016, which was then said to be the highest in the country by a Wildlife Institute of India report.

V. B. Mathur, director of Dehradun based Wildlife Institute of India, had earlier said, "Tigers are generally found at an altitude of 4000 ft-6000 ft in India. But, since the last estimation was done (2014) both states (Uttarakhand and Arunachal Pradesh) have reported the presence of tigers in high-altitude areas."

To
The Hon'ble Chief Minister,
State of Telangana,
Secretariat Buildings,
Hyderabad.

Honoured Sir,

Sub:- Forests and Environment – Greening the State – Problems and Prospects – Role of Forest Officers – Criminal Assaults while performing duty- Representation – Reg. Forests are a component of Environment which gives clean air and water to the people. Clean environment is a 'right to life' to the people guaranteed under the Constitution. If

the environment has to be protected from pollution, trees and forests need to be conserved. Realizing the importance of trees, you have rightly given a call for improving the greenery by a slogan, "TELANGANA-KU-HARITHA-HARAM". To make it a reality, forest officers are endeavouring to plant saplings of tree species in degraded areas and open forest lands under the schemes: Afforestation of degraded forest lands and raising compensatory plantations in lieu of forest lands sacrificed in favour of Major Irrigation Projects.

"Land" is a precious commodity; it does not grow in size while the population grows leaps and bounds. Therefore there is 'land hunger' prevailing among the people, particularly the Adivasis and economically backward classes. They have an eye on such forest lands which are rendered treeless by misuse and abuse; and the politicians want the treeless forest lands to be assigned to landless people, not realizing the fact that the lands are capable of being reclothed. The forest officers are facing an unpleasant situation of conflict of interest and duty. Foresters are of course bound by duty as mandated in the National Forest Policy to conserve forests and carry out in denuded areas afforestation works. This is an onerous task in the absence of public cooperation and hostile situations created by unsocial elements. The proper course to remedy the situation would be to wean them away from age old practice of farming and rehabilitate them on other skills and occupations.

The recent occurrences in Kaghaznagar Forest Division in Kumaram Bheem Asifabad district are a reflection of the difficult situation faced by forest officers. In one case, Smt. Anitha, FRO was successful in evicting Adivasis from forest of Gondi village and rehabilitating them under the

supervision of the Forest Divisional Forest Officer in due compliance of the High Court order. But in another case of Sarasala village while she was organizing planting seedlings in open forest, she became a victim of vandalism and got injured when she was attacked by lathis by unsocial elements. Many more such instances are taking place in B. Kothagudem, Khammam, Mulugu Districts etc. The fact is well known to you.

We request you to ensure that such unlawful acts do not recur and kindly arrange to issue orders of Government for protection of forest staff whenever it is needed while they carry out their legitimate duties,

Yours faithfully,

Hyderabad

Dt: 03-07-2019

(T. Narayan Swamy) Ag. President

4-Year-Old Leopard Fell Down a Well In Pune, Rescued By Wildlife Officials:-

A few days back a four-year-old male leopard was rescued by a team of Shirur Range Rescue along with Wildlife SOS from a well on Sunday in Fakte village of Shirur Taluka, Pune.

The incident comes days after the alleged poisoning of a tigress and her cubs by locals in Chandrapur district.

According to reports, the rescue team reached the spot after receiving information from Vital Baburao Bujbal, a rescue volunteer of Shirur Range. According to the team, the leopard might have fallen accidentally into the well on Sunday morning.

A story published in *The Weather Channel* revealed that the 20-foot deep well had a lot of water and no crevices or stones to help the wild feline to come out and escape.

With hundreds of onlookers clamoring for a look, volunteers and forest officials at the spot informed the Leopard Rescue Centre at Manekdoh, jointly run by forest officials and Wildlife SOS, who lowered a wooden plank into the well to allow the scared cat to rest. Once the leopard had calmed down, they lowered a cage into the well, and surprisingly enough, the leopard quickly climbed into the cage, which was promptly hoisted up to dry land.

The leopard has subsequently been sent to Manekdoh Leopard Rescue Centre for treatment.

Nagpur: Water cuts imposed for 3 days due to less rainfall: - The farmers are reeling under an acute scarcity of rain and are desperately waiting for the monsoon rain spells to bless their parched lands.

With Nagpur receiving deficit rainfall this year, Orange City Water Works Ltd, which supplies water in Nagpur, has decided to impose water cuts for three alternate days in the region as the water level of Navegaon Khairi Dam and Gorewada Lake has gone down.

While talking about the same, Sachin Dravekar, PRO at Orange City Water Works Ltd, said, "Due to less rainfall, the water level of Navegaon Khairi dam and Gorewada Lake, which supplies water to Nagpur, has gone down. So, it has been decided that water will not be supplied on Wednesday, Friday and Sunday this week."

Nagpur Municipal Corporation and Orange City Water Works will be holding a meeting on Monday to have further discussions on how to tackle the situation.

"There will be a meeting of Nagpur Municipal Corporation and Orange City Water Works on Monday where further discussion as to how to tackle the situation will be done. It will be decided during the meeting if this system is to be followed in the coming weeks too," he added.

On the other hand, farmers of Vidarbha are fighting with their backs to the wall due to delayed monsoon in the region.

"It's been 15 days and we haven't received monsoon rains in our region yet.

Trip to Alaska: - Oh mi gosh, this trip was amazing! First we went to Vancouver, then took a ferry ride to Victoria where we saw the Butchart Gardens and a Castle! Then we took a ferry back to Vancouver and we saw a bunch of places from my favourite show from the CW network which was really cool. Then we got on the boat. The boat it was not even like a boat! It was like a castle on water housing 2200 people! On the boat we visited Juneau, Icy Straight Point and Hoonah, Skagway, College, Fjord and ending our trip anchorage.

I experienced some amazing things, including riding the tallest zip line in the world taking a nature focused train ride and going whale watching. A whale came so close to us that I could have jumped on it if I want to!! I hung out with some amazing people. I went to the 'teens lounge' (which sounds super childish and silly but it was really amazing) at the end of the trip and I went back to my room later than 12:00 every night after. I had such amazing experience, and I'm so grateful to my grandfather who took on this cruise on his 80th birthday!!

I loved this trip so much, and I'm so lucky to have gone on it. Also, if you have endured me long enough to read down to here. Congratulations!! I also know I'm posting this paper late but I have been sleeping like 11:00 every day and then doing nothing so sue me. ("Experience note" jotted down by Sri K. Buchi ram Reddy's brother's teen aged granddaughter on their trip to Alaska.)

LEGAL NOTES

All India Institute of Medical Sciences Vs Sanjiv Chaturvedi, IFS

This is a case of appeal filed in the Supreme Court by the All India Institute of Medical Sciences (AIIMS) against an Indian Forest Service Officer of Uttarakhand cadre of 2002 batch, Sri Sanjiv Chaturvedi, who served earlier in the state of Haryana and unearthed several instances of corruption and earned an epithet of Whistleblower of the Haryana Forestry Scam and Graft Crusader. He was harassed by the Government of Haryana but was protected by Presidential intervention. He opted for cadre change to Uttarakhand. The Central Government ordered him to work on deputation with AIIMS as Deputy Secretary.

Sri Sanjiv Chaturvedi worked as Deputy Secretary at AIIMS between 29.06.2012 and 28.06.2016. He was also made Central Vigilance Officer (CVO) as resolved by the Standing Committee of Finance. During the period when he was working as CVO, the Health Secretary commended his work as 'exemplary' and 'absolute integrity'. He was graded as outstanding in the Annual Performance Appraisal Report for 2012 – 2013 and 2013 – 2014 with the remarks by the then Health Minister as follows:

"Sri Sanjiv Chaturvedi, Deputy Secretary and Central Vigilance Officer at the All India Institute of Medical Sciences, New Delhi is a man of integrity, sincerity, who is keen on performing his assigned role to the best of his ability and knowledge without fear or favour."

During the period when Sri Sanjiv Chaturvedi was working as CVO, he was awarded in 2015 Ramon Magsaysay award for exemplary integrity, courage and tenacity inter

aliauncompromisingly exposing and painstakingly investigating corruption in public offices. He offered to donate the award money of Rs. 14, 23, 000 to the AIIMS for free treatment of under privileged patients; but it was not accepted. So he donated the money to the Prime Minister's Relief Fund. Unfortunately people who praised his work turned against him, particularly his role in exposing corruption and stripped off his duties and responsibilities.

1. The work of General Section was withdrawn from him in November 2012;

2. The work of CVO was withdrawn in August 2014.

3. The work of dealing with grievances was withdrawn in 2015;

4. The work of estate section was withdrawn in December 2015.

. In the result Sri Chaturvedi was left with no work except signing pension papers and booking guest houses. Hurt by the withdrawal of duties, Sri Chaturvedi filed O.A. No. 1887/2015 before the Principal Bench of Central Administrative Tribunal (CAT) for directions to allocate the work to the Deputy Secretary; but the O.A. was dismissed.

A Memorandum dated 07.01.2016 was served on Sri Chaturvedi informing him that the Director of AIIMS had placed on record his displeasure about his insubordination, indiscipline and lack of work ethics in the year 2015 and directed that a copy be included in his personal file. An appeal against the Memorandum was rejected by the competent authority.

Aggrieved by the Memorandum and the order of rejecting the appeal, Sri Chaturvedi filed O.A. No. 1342/2016 before the Principal Bench of CAT at New Delhi. It was prayed that the Director of the AIIMS be restrained from writing the Annual Performance Appraisal Report (APAR). The Tribunal ordered notice.

On 28.06.2016, the deputation ended. And he joined his new post in Uttarakhand in August 2016. By an order dated 11.01.2017, the AIIMS communicated Annual Confidential Report (ACR) for the period 2015 -2016 to Sri Chaturvedi wherein he had been given 'zero' grading in all attributes. An appeal against the ACR was rejected.

On 19.06.2017, Sri Chaturvedi filed W.P. No. 225 / 2017 before the Uttarakhand High Court challenging the adverse remarks. Sri Chaturvedi at the same time filed an application No. 286/ 2017 in O.A. No. 1342/2016 before the Prl. Bench of CAT at New Delhi for transfer of the O.A. to the CAT Bench at Nainital. By order dated 19.06.2017 in W. P. No. 225 / 2017, the Division Bench of the High Court relegated Sri Chaturvedi to approach the CAT and seek relief. Therefore Sri Chaturvedi filed an application in O.A. No. 331 / 790 of 2017 before the Nainital Bench of the CAT challenging the APAR of the period 2015-2016 whereupon an interim order was passed in favour of the applicant on 18.09.2017; the operational part is set out herein below:

"Matter be posted for further hearing on interim relief on 03.10.2017. The Respondents shall file their reply before the said date. In the meantime, in the interest of justice, it is directed that if any matter related to the career progression of the applicant comes up for consideration before the terms of the impugned orders shall not be taken into account while assessing the

applicant's suitability or fitness and he shall be considered on the basis of the rest of his Annual Confidential Reports / Annual Performance Appraisal Reports."

The Union of India filed an application before the Chairman of the Tribunal being PT No. 316 / 2017 seeking the transfer of O.A. No. 331 / 790 to the Prl. Bench at Delhi. By an order dated 18.09.2017 sitting singly, the Chairman stayed proceedings in O.A. No. 331 / 790 pending before a two member Bench at Nainital for a period of six weeks and a notice be issued to the respondent.

Sri Chaturvedi, questioning the legality of the order of Chairman of CAT sitting singly, filed W.P. No. 259 / 2018 in the High Court of Uttarakhand. The Division Bench of the High Court on 21.08.2018 allowed the writ petition and set aside the order of the Chairman of CAT Prl. Bench at Delhi dated 18.09.2017 by which Proceedings in O.A. No. 331 / 790 before Division Bench of CAT were stayed. The Chairman of the Tribunal sitting singly could not stay the proceedings pending before the Division Bench of the same Tribunal. The High Court imposed costs of Rs. 25,000 on the AIIMS.

Aggrieved by the order of Uttarakhand High Court, AIIMS filed SLP No. 27490 / 2018 and Civil Appeal No. 1392 / 2019 before the Supreme Court. The appeal was heard by a Bench of the Hon'ble Justice R. Bhanumathi and the Hon'ble Justice Indira Banerjee.

The counsel for the appellant argued that the impugned order was passed by the High Court without notice to appellant. It was further submitted that it was necessary for the Chairman to pass stay order to avoid multiplicity of proceedings in O.A. No. 331 / 2017 before the Bench of CAT at Nainital and O.A. No.

1342 / 2016 before the Prl. Bench. The subject matter of both the applications related to the APAR for 2015 – 2016. The counsel cited ruling in support of his argument.

The counsel for the Respondent refuted the submissions made on behalf of the appellant and argued that the appellant had been represented by the Additional Solicitor General and a copy of the writ petition had been served on him. The Additional Solicitor General and the Senior Counsel for the Government had been representing the Union of India and the AIIMS in the High Court as well as Nainital Bench of CAT.

The counsel for Respondent argued that the Chairman of the CAT sitting singly had no power under the Act to stay the proceedings in a part-heard matter before a Division Bench of the same Tribunal. The High Court imposed a fine on the Appellant as the Appellant had obtained an ex-parte order by misrepresentation.

The Hon'ble Supreme Court traced the history of the Act and the background for creation of the Administrative Tribunals in pursuance of Art. 323-A of the Constitution. The court held that the Chairman is an entity distinct from the Tribunal and exercises administrative powers only. A Tribunal created under the Act and also its Chairman derives their powers from the Act and can only exercise such powers as are conferred by the Act. The Chairman of the Tribunal exercising his powers under Section 25 of the Act does not function as a Tribunal. The Chairman of CAT does not have power to pass an interim order of stay of proceeding pending

before a Bench of the Tribunal. A judicial order passed by a Tribunal is binding on all concerned, including the Tribunal itself on its administrative side unless set aside or modified by a higher forum. In no circumstance, can a judicial order of a Bench of the Tribunal be nullified or rendered nugatory by its Chairman. In any case, judicial decorum and propriety demand that a judicial order, ad interim, interim or final order be vacated, varied, modified, recalled or reviewed by a larger Bench.

The Supreme Court held that the Division Bench rightly allowed the writ petition. The Chairman like a Chief Justice of the High Court or the Chief Judge of a subordinate court may be higher in order of protocol and may have additional administrative duties and responsibilities. However, the Chairman acting judicially is equal to any other Member. The Chairman being one among equals could not have stayed proceedings pending before a larger Bench. The High Court rightly allowed the writ petition with costs. The Supreme Court did not find any grounds to interfere with the reasoning of the High Court. Since the order of the Division Bench is upheld and held that the Chairman of CAT staying proceedings before two members Bench was without jurisdiction and unsustainable in law, the appeal of AIIMS was dismissed on 01.02.2019 with costs quantified at Rs. 25,000 to be deposited with the Supreme Court Legal Services Committee within four weeks.

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