

Vanapremi Wishes Very Happy Healthy & Prosperous Ramzan

VANA PREMI

Nau Say Navvay Sall Tak Ke Bachon Ka Sathi

Life Time Subscription - Rs. 5000/-

Yearly Subscription - Rs. 400/-

Single Copy Rs. 40/-

Vol .20

JUNE -2019

No.06

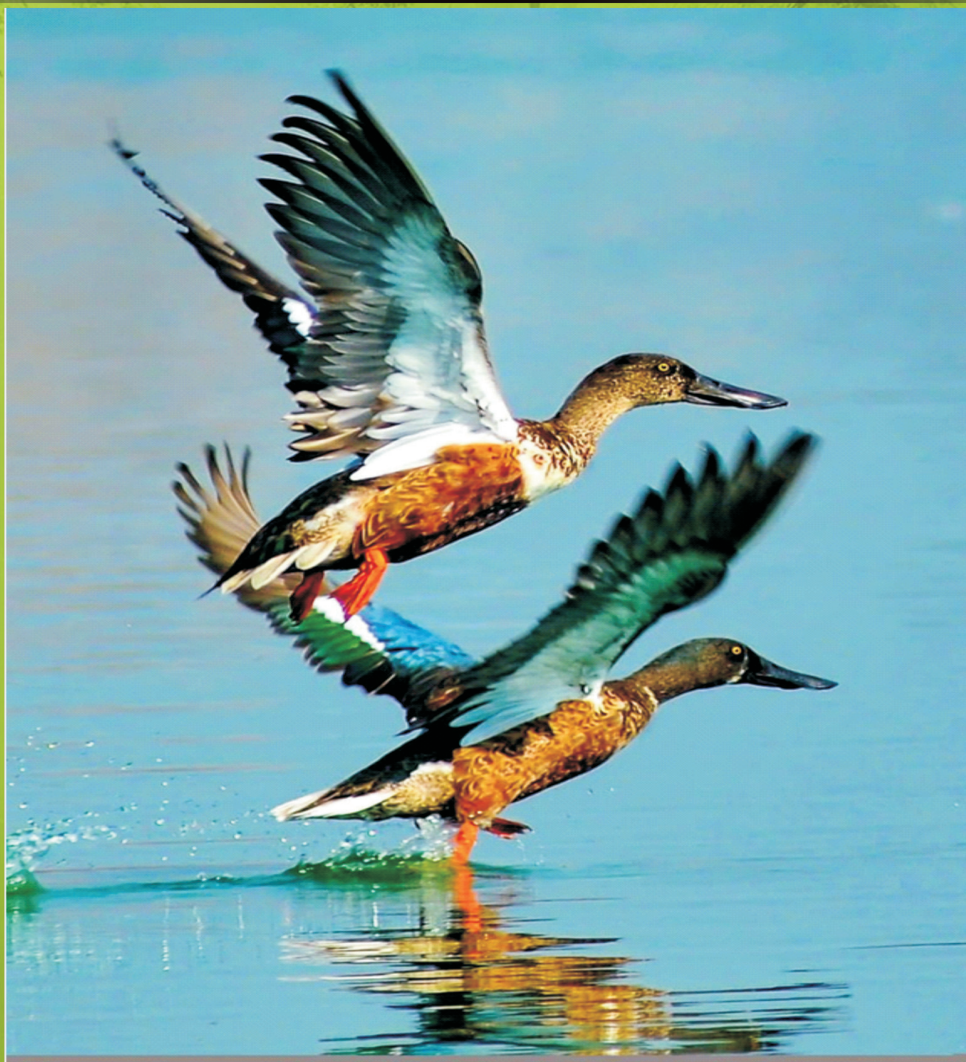


Photo taken: By Dr. Pannala Jagan at Pakhal lake (with thanks)

Northern Shovelers (*Spatula clypeata*)

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

Website : www.vanapremi.com



TELANGANA STATE FOREST DEVELOPMENT CORPORATION LTD.

- A fully owned, financially well managed State Government Company. Raising massive plantations to cater to the needs of the wood based industries.
- Watershed approach adopted for raising plantations, to make them ecologically sustainable, socially acceptable and commercially viable, with the long term goal to improve the site quality of plantation areas.
- Large grower of about 25,166.11 Ha of Eucalyptus clonal plantations. Bamboo also grown as an important crop over 8,065.94 Ha.



- 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

Vice Chairman & Managing Director

T.S. Forest Development Corporation Ltd.,

3rd Floor, UNI Building, A.C. Guards, Hyderabad - 500004.

Telephone Nos. 040-23395750/23392652 Fax: 040-23326420

Email: vcmd.tsfdcl@gmail.com, www.tsfdc.telangana.gov.in

VANA PREMI

Vol : 20

June - 2019

No.06

Editor : Qamar Mohd. Khan**Associate Editor : D. Nagabhushanam, I.F.S. (Retd.)*****The Association of Retired Forest Officers, Telangana & Andhra Pradesh****(Regd. No. 557/1990)*

- President** : Sri. S.K. Das, I.F.S.
Cell : 9550681964, 23115085
- Vice President** : Sri. T. Narayana Swamy, I.F.S.
Cell : 9701336446
- Secretary** : Sri.A.V. Govindarajulu,
Cell. 9440764611
- Jt. Secretary** : Sri. A.Shankaran,9494019595
- Treasurer** : Sri. M.Narsimha Reddy,
9966341500

Executive Committee Members

- 1) Sri. C. Muralidhar Rao, 9848390004
- 2) Sri. N. Syam Prasad,9100633141
- 3) Sri. K. Santokh Singh,9848808101
- 4) Sri. P. Upender Reddy,9848754778
- 5) Sri. V.V. Rajam,9348322236
- 6) Sri. G. Raman Goud,9391499119
- 7) Sri. A. Kishan,9963321321
- 8) Sri. B.M. Swamy Das, 9000817781

Permanent Invitees

1. Sri. T. Narayan Swamy,9701336446
2. Sri. K. Buchi Ram Reddy,9666097788
3. Sri. J.V. Sharma,9441319151

Editorial Board

1. President : Ex-Officio President of Assn.
2. Editor : Qamar Mohd. Khan
Tel:040-40205831, 9849233624
e-mail : qamar_asima@yahoo.com
3. Associate Editor : D. Nagabhushanam, I.F.S. (Retd.)
8096511200

Members

4. Sri. V.V. Hari Prasad,7893673767
 5. Sri. K. Pradeep,9848178693
 6. Sri. Thirupelu Reddy,9959100965
- Convenor** : Ex-officio Secy.of Assn
- Auditor** : Sardar Iqbal Singh,9502163411

TARIFF RATES FOR ADVERTISEMENTS

Back side of front and last cover page	
(Colour) for one year	Rs. 30,000/-
Outer Cover half (Colour) for one year	Rs. 20,000/-
Inner Center Spread (Colour) for one year	Rs. 30,000/-
Inner full page (B&W) for one year	Rs. 20,000/-
Inner half page (B&W) for one year	Rs. 15,000/-
Inner full page One Time (B&W)	Rs. 5000/-
Inner half page One Time (B&W)	Rs. 3000/-

Contents

1. Editorial Q.M.K 4
2. Northern Shoveller (*Anas Clypeata*)
Source : Internet 8
3. Industrial Pollution in Patancheru
and Bollaram IDAS P.S. Rao 9
4. Better be Aware of Pollution
Components and their ratings
B. Raghotham Rao Desai 18
5. Sukumaran's Case - A Legend
K.B.R. Reddy 22
6. Forest fires and Environmental
Pollution
V.Santhaseela Babu 24
7. Notice ; The 91 st General
Body Meeting Secretary 30
8. Why Parents need to Ditch
Traditional Discipline
V.V.Haiprasad 31
10. The Relevance of Herbal
Medicine D.Basava Sankar Rao 35
11. Rain Water Harvesting for Wildlife
Under ground water recharge
B.M.T. Rajeev 39
12. Elephant Translocation
Dr.M.Navin Kumar 43
13. Tree borne oil seeds : A Fuel for
Future N. Krishna kumar,
K.T.Parthiban & K.P.Vijayalakshmi ... 44
14. Birthday Greetings ----- 46
15. News and Notes ----- 47
16. For A Hopeful Future..Mohan Konda 51
17. Legal Notes State of Maharshttra
Vs Wasudeo Ramchandra kaidlwar 52
18. Obituary : A.H.Moosvi (1936- 2019) .. 54

Date of Publication: 26-05-2019

Total pages 56

EDITORIAL

World Environment Day: World Environment Day is celebrated on the 5th of June every year throughout the globe, and is the United Nation's principal vehicle for encouraging awareness and action for the protection of our environment. World Environment Day was established by the UN General Assembly in 1972 on the first day of the Stockholm Conference on the Human Environment. Two years later, in 1974 the first World Environment Day was held with the theme "Only One Earth". Even though World Environment Day was held annually since 1974, in 1987 the idea for rotating the center of these activities through selecting different host countries began. India hosted World Environment Day in 2018 which took place on June 5, 2018, With "Beat Plastic Pollution" as the theme. This year i.e. 2019, China will host the global World Environment Day celebrations on the theme, 'Air Pollution'. For almost five decades, World Environment Day has been raising awareness, supporting action, and driving change. It is an environmental awareness day and the aim of the Day is to raise awareness of the environment and specific environmental issues.

What is Environment? It can be defined as "Environment is everything that is around us. It can be living or non-living things. It includes physical, chemical and other natural forces. It can also be said "that the surroundings or conditions in which a person, animal, or plant

lives or operates" is environment. A healthy planet is essential for a prosperous and peaceful future. We all know that today our environment is very much polluted. We can't stop breathing, but we can do something to improve the quality of air that we breathe.

We all have a role to play in protecting our only home. Hence we have to keep our Environment clean without pollution. But in present world are we keeping our Environment clean and pollution free. No not at all. In fact we are highly polluting our Environment and making human and animal life very difficult. It is estimated that nine out of ten people breathe polluted air, and almost 92 per cent of people worldwide do not breathe clean air. Seven million premature deaths are caused by air pollution each year throughout the globe with about 4 million of these deaths occurring in Asia-Pacific. What is the reason for this pollution? The following are the main reasons for the pollution of our Environment.

1. The main source of household air pollution is the indoor burning of fossil fuels, wood and other biomass-based fuels to cook, heat and light homes.
2. In many countries, energy production is a leading source of air pollution. Coal-burning power plants are a major contributor, while diesel generators are a growing concern in off-grid areas. Industrial processes and solvent use, in the chemical and mining industries, also

pollute the air.

3. The global transport sector accounts for almost one-quarter of energy-related carbon dioxide emissions and this proportion is rising. Transport emissions have been linked to nearly 400,000 premature deaths. This emission causes lungs related diseases in humans. Reducing vehicle emissions is an important intervention to improve air quality, especially in urban areas. We know the condition of polluted air in Delhi and other cities of our country. Policies and standards that require the use of cleaner fuels and advanced vehicle emissions standards can reduce vehicle emissions by 90 percent or more. Till today we have Bharat stage IV compliant vehicles only and far behind when compared to Euro standards. (The Bharat stage emission standards are standards instituted by the government to regulate output of air pollutants from motor vehicles). Euro 6 standard is equal to Bharat stage VI, which we have not yet started and in other countries this was introduced in September 2015. In other countries cars produced and sold from September 2015 need to meet these emissions requirements. In its recent judgment, the Supreme Court of India has banned the sale and registration of motor vehicles conforming to the emission standard Bharat Stage-IV in the entire country from April 1, 2020. Bharat stage VI will be introduced in our country from year 2020 which means we are almost 5 years behind when compared to other countries. Battery operated vehicles should be

introduced to avoid air pollution.

4. There are two major sources of air pollution from agriculture: livestock, which produces methane and ammonia, and the burning of agricultural waste. Methane emissions contribute to ground-level ozone, which causes asthma and other respiratory illnesses. Methane is also a more potent global warming gas than carbon. Hence instead of rearing more number of milch cattle with lesser yield it is better to rear less number of cattle with higher yield to reduce pollution. We know the agriculture waste burnt in North West states of our country like Haryana and Punjab which is causing heavy air pollution in Delhi.

5. Open waste burning and organic waste in landfills release harmful dioxins, furans, methane, and black carbon into the atmosphere. Globally, an estimated 40 percent of waste is openly burned. The problem is most severe in urbanizing regions and developing countries. Open burning of agricultural and municipal waste is practiced in 166 out of 193 countries including India. Recently there was *Dharna* in Narsampet Mandal of Warangal district for burning of Narsampet Municipality's waste. In Jawaharnagar of Hyderabad also waste is burning uncontrolled on very large scale and area is stinking.

6. Trees are the lifeline to the living species that exist on this planet. They are the ultimate source of oxygen which is required to survive. Trees also absorb Carbon dioxide exhaled by

human beings and animals. There is news item in Times of India dated 14-05-2019 that "Carbon dioxide levels have hit record high" This shows there are less number of trees to absorb carbon dioxide which we are exhaling and slowly percentage of carbon dioxide is increasing in the atmosphere. If the situation continues the same perhaps a day will come when we will not have oxygen in the atmosphere to inhale and we have to depend on factory manufactured oxygen which will be very costly and out of reach for almost all.

We all have visited a forest? We all have been blessed to see so many trees around? Imagine all these trees getting cut at a slow pace and leading to barren lands. Imagine the effects of deforestation. Deforestation is taking place throughout the globe. 1.6 billion People in the world rely on forests for resources such as food, water, shelter, medicine, and clothing. What happens to them with deforestation? "We're losing 18.7 million acres of forests annually". The effects of deforestation on the environment can only be described as devastating. If deforestation continues at its current rates, we could potentially see the disappearance of the world's rainforests very shortly.

All Rivers start from Forest. Forests absorb water during rainy season, store it and supply during summer for drinking, and other purposes. In absence of Forest during rainy season there will be floods as seen in Kerala state, during summer there will be drought and even drinking water

will not be available. Water flows from forests into rivers that supply our reservoirs, agricultural canals, and water tables. These forest watersheds collect, store, clean, and transport more water than anywhere else. Protecting and restoring this forested watershed should be our top conservation priority. We know about the Aral Sea which was once the world's fourth largest body of inland water. Beginning about 1960, the Aral Sea's water level was systematically and drastically reduced, because of the diversion of water from the rivers which were bringing water into Aral Lake, for purposes of agricultural and finally it dried up and disappeared.

It has been scientifically proven that trees act as a positive natural fighter against global warming however, deforestation is speeding up the warming of our planet. With forest soils being naturally damp, many helpful micro organisms and insects grow in the soil, when trees are removed, the sun shelter is also removed, and resulting in quickly drying up of soil and all microorganisms will die. In turn, an environment that once stood as a lush forest evolves into a dry, unfertile and open environment resembling that of a desert.

Paper is produced from Bamboo and wood. These two commodities are very scarce presently. Use paper and print as little as necessary. Recycle paper to protect Bamboo and wood. Save water, save electricity and carpool when possible or take public

transportation instead of driving. Change attitudes towards our natural environment.

Due to rising of global temperature glaciers are melting and ocean's level is rising, which will destroy the cities and towns situated on the seashore. This will destroy the habitat of Polar bears. Forests around the world are under threat and almost half of the globe's tropical forests are cleared, as per reports by FAO. The main cause of deforestation is for agriculture, roads, railway lines, electrical lines, dams and the main cause of forest degradation is illegal felling over grazing, annual forest fires and Forest Rights Act. Trees help in keeping a balance between land water and atmospheric water. However, deforestation works to distort the balance and cause changes in river flow and precipitation. We have seen many rivers dried up in the last 50 years. The best example is Musi River of Hyderabad which was the lifeline of Hyderabad city. Most of the Rivers are polluted and water of these Rivers cannot be used for any purpose. Trees do anchor fertile soil, it has been analyzed

that, agricultural plants which usually replace the trees aren't effective in holding the soil. Let us plant as many trees as possible to produce oxygen and for the other benefits enumerated above.

Industries are also mainly responsible for air pollution in our country. There are a number of forms of industrial pollution. Industrial pollution can also impact air quality, and it can enter the soil, causing widespread environmental problems. Industrial activities are a major source of air, water and land pollution, leading to illness and loss of life all over the world. Hussain Sagar tank which is in the centre of city is example of industrial pollution. The feeder channel which takes industrial waste mixed in canal water is also polluted which feeds Hussain Sagar tank.

Vana Premi wishes that we all understand the importance of Environment and together we all protect it from all evils of degradation for better survival of all living organisms. **QMK**

NOTICE

The XX FRC meet is scheduled from 5-11-2019 to 7-11-2019 at Vadodara (Gujarat State). All the Alumni of Forest Colleges of India who desires to participate in this meet are requested to Contact Phone No. 9998932810.

NORTHERN SHOVELLER (*ANAS CLYPEATA*)

Source; internet

Northern Shoveler (*Anas clypeata*), also called Shoveller, is a common winter visitor to wetlands of India. **Size:** 51 cm **Local names:** Tidari, Tokarwala, Punana. The northern shoveler (*Spatula clypeata*) is a medium sized dabbling duck belonging to the family anatidae. The northern shoveler species is distributed in Northern America, Europe and Asia. Wintering populations occur in Southern Europe, Southern and Eastern Asia, Indian Subcontinent, Africa and South America.

Identification: Northern Shoveler is so named for its distinct large spoon-shaped bill. The male Shoveler has greenish feathers on the head and neck, the breast and belly are white, the back is black and white, and the wings have a chestnut hue, with the inner wings being bluish. The female's belly and breast are white, the body is a brownish color, and the inner wings are bluish. The bill of the Northern Shoveler has hair like lamellae that filter the water and capture the small plankton.

Habits: Northern Shovelers prefer shallow saltwater or freshwater wetlands like marshes, swamps, lakes, and lagoons. As they are not aggressive birds, they can get along with other dabbling ducks, diving ducks, whistling ducks and Shelducks.

Food: water insects, snails and plankton, fish, spawn and small quantities of vegetable shoots. The broad flat bill has lamellae on the edge of the bill which acting like sieves, helping in filtering crustaceans and plankton from the

water's surface. The northern shoveler species feed on invertebrates, aquatic insects, crustaceans, mollusks and aquatic vegetation.

Breeding: The northern shoveler species nest on the ground among dense grass or reeds. The breeding season is during April and May. The shoveler lay up to nine eggs.

Distribution: The breeding populations occur in North America, North Europe and North Asia. Wintering shoveler populations are found in Central and South America, Southern Europe, Africa, Indian Subcontinent, China and Southeast Asia.

Movement Patterns: The northern shoveler species is highly migratory and the birds from North America move to South America and Central America for wintering.

The North European shoveler birds move southwards up to Africa for wintering. The birds from North Asia move to Indian Subcontinent, East Asia, and Southeast Asia for wintering.

Status and conservation: The global population of the northern shoveler species is estimated to be between 5,500,000 and 6,000,000 individual birds. The global population size and range is very large and hence of least conservatory concern. The shoveler species is threatened by habitat degradation, pollution and hunting.

The IUCN (International Union for Conservation of Nature) has categorized and evaluated these northern shoveler species and has listed them as of "Least Concern"

INDUSTRIAL POLLUTION IN PATANCHERU AND BOLLARAM IDAS

P. S. Rao

Beginning 'the year' before 1990, a series of Writ Petitions were filed before Hon'ble Supreme Court and High Court of Andhra Pradesh against the industrial units located in Patancheru and Bollaram Industrial Development Areas (IDA) in Medak and Ranga Reddy Districts of AP (presently Telangana State) with a prayer to direct the authorities to pay adequate compensation to the victims of pollution leading to loss of life, agriculture crops, vegetation, cattle and damage to agricultural land from 1984-85 onwards and to provide wholesome clean drinking water to the people living in the affected villages, to direct the respondents to immediately send a team of doctors from different faculties and also veterinarians to assess the damage caused to health and for providing free treatment to the suffering people and their livestock, to take immediate measures to avert pollution from further spreading in surface and ground water sources and periodically collect water samples and inform people about the quality of water, to direct the govt. to immediately close down hazardous industries creating air and water pollution. A series of interim orders were issued by Supreme Court and High Court and finally the batch of Writ Petitions were transferred to National Green Tribunal (NGT) almost 3 decades after the cases were taken up for adjudication.

(2). It was pursuant to the Industrial Policy declared by the Government of India in 1952, the then Government of AP established Industrial Estate at Patancheru. For promoting the Industrial Policy, the state govt. has floated various Corporations during the period 1960-1970, including AP Industrial Development Corporation, AP Small Scale Industrial Development Corporation. In 1974 the Government has floated AP Industrial Infrastructure Corporation Ltd, (APIIC) and all the Industrial Estates under the control of the Industries Department were transferred to the said Corporation which started acquiring huge chunks of land to encourage entrepreneurs to set up industries. Later on, IDA Bolarum was also developed.

(3). It was due to the proximity to Hyderabad city and availability of Manjira water, large number of industrial units have come up in IDA Patancheru between 1975 and 1983. Nakkavagu, which is a stream flowing in Patancheru Mandal, originates at Bhanoor village and after travelling a distance of 25 km, joins Manjira which in turn empties in Nizamsagar reservoir after passing through Patancheru, Pocharam, Bachugudam, Gandigudem, Ganapathigudem, Peddakanjerla, Chinnakanjerla, Arutla, Chidruppa, Ismailkhanpet, Gondicherla,

Erdanoor and Machanoor villages and ultimately joins Godavari, the largest perennial river in south India. Industrial units located on the banks of Nakkavagu have directly or indirectly discharged their trade effluents into Nakkavagu, various *kuntas* and other water bodies. The industries include paper and cellulose manufacturing units, chemicals, drugs, pharmaceuticals, tanneries and distillery units. Unscientific discharge and extensive seepage and percolation of trade effluents has made groundwater highly acidic and dark coloured and the streams have become poisonous sewers damaging the health of not only human beings but also cattle, goats, sheep etc. The pollution caused in Nakkavagu has ultimately spread into the Manjira River. This resulted in filing various cases in the courts.

(4).The Government of India,through Parliament, has enacted Water (Prevention and Control of Pollution) Act, 1974 with the object of preventing water pollution. It is under the said Act Central Pollution Control Board (CPCB) and State Pollution Control Boards (SPCB) were constituted and it was made an offence for anyone to discharge trade effluents into open or into water bodies.

(5). In fact the cause of legal remedy on IDA Patancheru started way back in 1989 when an Advocate at Sangareddy, Mr. C. Pratap Reddy addressed a letter dated 08.12.1989 to the Hon'ble Chief Justice of India complaining about the plight of thousands of villagers in and around

Patancheru and Bolarum Industrial Areas of Medak District. The said letter was based on a report in the Telugu Daily 'Eenadu', Medak edition dated 07.12.1989 which reported that at Patancheru, one of the largest industrial areas in India, located on NH-9 (Hyderabad-Bombay) and Bolarum industrial area, industries have been causing pollution without even setting up of Effluent Treatment Plant (ETP) to treat the trade effluents and thousands of acres of fertile lands have become wastelands resulting in loss of livelihood of villagers. The drinking water has become completely polluted by seepage of industrial pollutants and cattle died consuming polluted water. He has also complained that by inhaling polluted air and drinking polluted water, people are affected with numerous ailments and infections. The advocate requested the Hon'ble Chief Justice of India to treat the said letter as writ petition and render justice to the people.

(6). The letter was forwarded to the High Court of AP, with a request to treat the same as a Writ Petition and take action in accordance with law. The High Court has directed issuance of notice to Pollution Control Board, Municipal Corporation/Metropolitan Water Works-cum-Sewerage Board, apart from issuing general notice to all the industries. The High Court has also directed the State Govt. to constitute a Committee. On receipt of the report of the committee if any industrial unit is found not implementing the orders of the Government, it should be immediately closed. The HC has

also referred to the number of industries identified by the PCB, as red category industries. It was also directed to set up Common Effluent Treatment Plant (CETP).

(7). In spite of the above, the industries, particularly pharma industries, continued to discharge untreated effluents which lead to issue of orders for closure of some more industries. The High Court Bench consisting of Justice Jeevan Reddy observed that:

"It is true industrial development is important. But we believe that human life is more important. Industrial development cannot be at the cost of human beings. It then becomes counter-productive. The situation in this area has already assumed alarming proportions. The surface water as well as ground water in the area covering about 14 to 15 villages has become thoroughly unfit for human consumption."

(8). The High Court directed the District Collector, Medak to take immediate steps to supply drinking water to the residents in the affected villages. Ultimately the Division Bench has held as follows:

"We may reiterate that hearing of this matter has created an alarm in our minds as to the dangerous proportions of the problem and its effects on human beings, cattle, land, air and water. We are afraid, in our mad race for industrialisation and industrial prosperity; we have forgotten the man somewhere along the way. The promoters, the financing bodies and even the public corporations like A.P. Industrial Infrastructure Corporation, A.P.

Industrial Development Corporation, A.P. Small Scale Industries Corporation and the Industries Department of the Government do not appear to have been conscious of, or at any rate cognisant of the consequences arising therefrom. Finance was provided, subsidies were given and all types of concessions extended to establish, nurse and encourage these industries but no steps were taken at any rate and no meaningful steps were taken, for effective disposal of effluents and industrial wastes, even after their pernicious consequences have become evident. The response has not been equal to the task. We do not think that it ought to be so. We hope and trust that the financing bodies and all the public corporations will take due notice of these emerging problems at least now and take prompt steps for rectifying the situation. They shall also keep the same in mind while allowing establishment of new industries in the area."

(9). Even after the directions issued by the Division Bench of the AP High Court, the industrial units continued to violate the pollution norms though many of the industries have reported that they have constructed ETPs which on verification were found to be built in a haphazard and unscientific manner. Tanning industries, distilleries, pesticide manufacturing units, cellulose manufacturing units and pharma industries which are all red category units, are dangerous in respect of their trade effluents and by virtue of the same, life of people living in the area has been endangered and this man made tragedy has resulted

diseases causing physical sickness apart from damage to the environment. People have become victims of conjunctivitis, skin diseases, fever, water borne diseases, cancer etc. A survey was conducted in the affected villages which shows alarming rate of increase in the morbidity rate. The condition of groundwater in the area and the life of people remain the same even after the passage of more than 25 years.

(10). Agriculture being the only means of livelihood for inhabitants they suffered heavily as the lands have become uncultivable because of severe pollution. The Hon'ble Supreme Court directed the successive District Judges, Medak to assess the damage and submit assessment report and also to ascertain from the farmers who are entitled for compensation by determining the amount of loss. After assessment compensation was provided which was found to be quite inadequate

(11). On the recommendation of the PCB on establishment / expansion of certain categories of polluting industries in Medak, Rangareddy, Mahabubnagar and Nalgonda Districts a ban order was imposed until further orders by the govt. AP in G.O Ms.No.62 dated 20.04.1999. The Government by exercising its powers under Section 19 of the Air and Water Pollution Acts, has made the ban order permanent. In G.O Ms No 95 E,F,S&T Department dated 21.09.2007 by superseding all the notifications issued earlier including G.O Ms. dated No. 62 dated 20.04.1999 and on recommendation of the PCB, the Government has imposed restrictions one km

around on establishment/ expansion of various categories of industries in all the Industrial Estates / Industrial Development Areas (IDA) in the Districts of Medak, Rangareddy, Mahabubnagar and Nalgonda subject to the outcome of batch of Writ Petitions pending before the High Court. On the following categories of industries restrictions were imposed:

1. All types of Bulk Drug manufacturing units except formulation,
2. All types of Pesticides manufacturing units except formulations,
3. All types of Dyes and Dye intermediate manufacturing units,
4. All other types of highly water polluting industries:

(12). Against the government orders the Bulk Drugs Manufacturers Association of India (BDMAI) has represented that the pharma industries of large, medium and small scale sectors in the country are providing employment for more than 60 lakh people directly and indirectly with the capital investment of about Rs.40,000 Crores. About 250 industries which are the members of BDMAI, are located in Telangana and there are more than 500 such industries throughout India and 45% of the world's requirement of medicines is produced by BDMAI in India and 95% of the domestic needs of medicines are catered by the units in Patancheru and Bollaram areas. The bulk drug industry contributed about Rs.21,753 Crores worth of exports during the

year 2014 -2015 which is growing over by 15% to 20% every year. Most of the pharmaceutical industries are the members of BDMAI. In the prevailing situation, taking into consideration and substantial change in the production process and technology, the BDMAI requested to lift the ban on establishment of new units and expansion of the existing units.

(13). BDMAI further pleaded that it is a fact that earlier the industries were causing pollution by adopting obsolete technology and there was not much awareness on environmental and pollution issues. However, after the introduction of new technology and specialisation of manufacturing bulk drug and intermediates, there is a complete change of circumstances. The members of BDMAI are bound by the provisions of the Water Act and Air Act and Environment (Protection) Act, 1986 and Rules made thereunder and it is stated that all the members of BDMAI are having required permission for the operation of their industries. The activities of the member units of BDMAI are constantly monitored by the PCB and other authorities. The units have established primary treatment facilities and after the establishment of CETPs at Patancheru and Jeedimetla, effluents are treated before letting them into water bodies. At the time of starting of all these industries there was no regulatory mechanism for four decades in respect of treatment and discharge of effluents and pollution technology and the above said factors have contributed in causing pollution. Now advanced technology is

available with Zero Liquid Discharge (ZLD) and there is no possibility of discharging untreated effluents and thereby causing pollution.

(14). Mr. M.C. Mehta, learned senior counsel appearing for the victims of pollution has focussed various points including rivers, streams, lakes and other water bodies as to how they are polluted by the industries, particularly the pharmaceutical industries at Patancheru and Bollaram resulting in water unsuitable for drinking and irrigation purposes, consequence of which the entire area which was once agriculturally rich, has become barren land. He also relied upon various studies including the study made in November, 2000 by the Department of Community Medicine, Osmania Medical College, Hyderabad to substantiate his contention that people are affected by pollution and they are to be adequately compensated. He also relied upon the study made by Green Peace in October, 2004 to highlight the state of community health in Medak District. It is his contention that in course of time there has been enormous industrial development in the area and nearly 320 industries manufacturing pesticides, chemicals, pharmaceutical products and steel rolls have grown which resulted heavy pollution. He has also relied upon a study made by the NGRI, sponsored by the CPCB, wherein high levels of heavy metals such as Arsenic, Strontium, Barium, Selenium, Boron, Manganese and Nickel were found in the water bodies. The study shows that in villages like Bonthapally, Chitkul,

Digwal, Gaddapotharam, Khazipally, Kistareddypet, Pashamailaram, Pocharam and Sultanpur from Patancheru, Jinnaram and Kohir Mandals and villages of control group viz., Musapet, Ramojipally, Uthloor and Veerojipally of Sakarampet 'A' Mandal there are reports of victims afflicted with various types of diseases. The Counsel submitted that even after 30 years and inspite of various directions by the Apex Court and High court, the pollution in Patancheru and Bollaram is unabated.

(15). It was also stated that before commissioning the 18 km length pipeline and discharge of treated effluents from Patancheru CETP to Sewage Treatment Plant (STP) at Amberpet no study was taken up on negative impact on the environment due to the discharge of treated industrial effluents in Musi River from Amberpet STP. Treatment of organic residues generated by the bulk drug and pharmaceutical units was not taken seriously due to which Anti Microbial Resistance (AMR) to drugs is increasing which may seriously affect the health of the people.

(16). The NGT, Chennai Bench (the author of this article was part of the Bench) extensively heard the learned counsel appearing for the parties for more than 30 hearings from 2015 onwards and referred to volumes of documents filed by various parties for the past 3 decades, perused the orders of the Hon'ble Apex Court, Hon'ble High court given on various occasions and taking into consideration that the matters are pending in the portals of judiciary for more than three

decades and also taking into account that lands in most of these villages are getting converted for commercial activities due to the proximity to Hyderabad city, closure of industries affects development and employment, invoked the concept 'Sustainable Development' and has arrived at some critical points for consideration and delved them in detail and disposed the batch of Writ Petitions (Applications) by giving judgment in October 2017 running into 353 pages. The judgment elaborately deals with technical, ecological, social and medical and health issues and contains various directions to the State Government some of which are as follows. Issues related to processing technology and pollution related standards of various industries are not included here in this article due to space constraint.

(i). The Tribunal satisfied with the contention of PCB and BDMAI and observed that the transport of treated effluents from CETP to Amberpet STP running over a length of 18 km for dilution and thereafter letting into Musi River confirms the Hazardous Waste Rules and Basel Convention and there is no need to reopen the issue by the Tribunal.

(ii). The Tribunal noted that even after the passage of time and orders passed by the courts and notices issued by the PCB, there is no significant improvement in the groundwater quality particularly in the Manjira River Basin with specific reference to Kazipally Lake, Isnapur Lake, Kistareddypet Lake and Gandigudem Lake which ultimately lead to

Nakkavagu and therefore it is incumbent on the part of the State Government to completely restore all these water bodies to their original position and recover the entire cost from the industrial units proportionately. Until complete restoration of the said tanks/lakes is done, the drawal of water by the industries shall be restricted by the government by framing appropriate guidelines in consultation with the Central Groundwater Authority and Experts from Osmania University, particularly Department of Hydrology. Framing of such guidelines regarding extraction of groundwater by the industrial units of Patancheru and Bollaram shall be completed within a period of three months and till then no unit shall be permitted to extract groundwater.

(iii). NGT directed that it is the duty of the PCB not only to ensure primary treatment of effluents by all the units but also must satisfy that the standards of effluent treated by each industrial unit before transferring to CETP, are within the permissible limit and the CETP strictly maintains its inlet and outlet standards. Only after the PCB is satisfied that the outlet standard of CETP is within the limits and also eligible to be transported for further dilution in the STP at Amberpet, the whole process should be permitted and there should be a periodical check. During transport it should be ensured that no breakage or leakage of pipeline takes place enroute and at the place of discharge in the STP at Amberpet the outlet standards must be checked by the PCB and it should satisfy before allowing to enter into the STP for further dilution.

After dilution from STP at the point of discharge into Musi river proper check must be made by the PCB to ensure that the standards are maintained.

(iv). The arrangement for supply of drinking water to the people in villages Baithole, Arutla, Chidruppa, Ismailkhanpet, Gandigudem, Sultanpur, Khazipalli, Kistareddypet, Inole, Peddakanjarla, Patancheru, Lakdaram, Muthanghi, Isnapur, Kandi Rudraram, Ramchandrapuram, Kalabgoor, Chitkul and Pocharam shall be continued by the State Government which shall be entitled to recover the cost thereof from the industrial units proportionately. The NGT made it clear that the said activity shall be continued by the Government until complete restoration of the water bodies and groundwater.

(v). For the period from 1986-1987 to 2001-2002 the villagers are entitled for compensation at the rate of Rs.1,000 per acre per annum in respect of dry land and Rs.1,700 per acre in respect of wet agricultural land which shall be promptly paid. There is no need to either reverse the quantum of compensation or to continue payment of compensation after 2001-2002 except in respect of specific cases of claim of compensation which shall be decided on merits and in accordance with law.

(vi). The Tribunal ordered that the State Government shall constitute an Expert Committee headed by the Director, Medical Education along with Experts drawn from various fields like Infectious Diseases,

Dermatology etc., and scientists well versed in Microbial Resistance and Epidemiology to make a thorough study in all the villages forming part of Manjira River basin in and around Nakkavagu and other water bodies and also Musi River Basin to recommend:

(a) As to whether the health hazard to the people living in the area due to the industrial pollution continues and if so, what relief should be granted ?

(b) Whether the activities of the pharmaceutical industries have led to Antimicrobial Resistance (AMR) to drugs and if so, what are the consequences on the health and what remedial measures to be taken ?

(c) A broad Epidemiological and Genetic Study and survey to be made including remedial measures to be taken.

The said committee constituted by the State Government, shall be directed to submit its report within three months and recommendations of the committee shall be implemented by the Government. Committee's report and the status of implementation shall also be placed in the public domain by uploading on the website of the Director, Medical Education and also Health and Family Welfare Department of Government of Telangana.

(vii). NGT further ordered that in the light of inadequate healthcare facilities offered by the govt hospitals in the area, the Government of Telangana shall establish a Super Speciality Hospital with adequate medical facilities to treat

the patients affected with pollution for which the industrial establishments situated in the industrial hub shall contribute 75% of the total cost and the remaining amount to be borne by the State Government. The hospital shall be run under the supervision of a committee consisting Medical Experts nominated by the government and also involving Senior Government Officials connected with the Health Department.

(viii). NGT observed that there is no necessity to direct closure of the existing industrial units in Patancheru and Bollaram. However, unless and until restoration activities are completed, the Regulatory Authority shall not consider any of the applications of the existing units for expansion. In the event of the Regulatory Authority deciding that expansion in respect of a particular unit is required in public interest, such proposal may be considered not only strictly in accordance with the provisions of the Act but only after satisfying that the unit is implementing ZLD technology and subject to further condition that the said unit shall be directed to deposit an amount equivalent to 1% of the annual turnover achieved in the immediate preceding year and such amount shall be kept in a separate account in the name 'Patancheru-Bollaram Environment Relief Fund' and only after the deposit of the said amount, the claim for expansion may be considered.

(ix). All the existing units shall have their primary effluent treatment system inside the unit, whether they are members of CETP or not

and the same has to be scrupulously enforced by the Regulatory Authority.

(x). As mentioned above, NGT directed to create Corpus Fund in the name 'Patancheru-Bollaram Environment Relief Fund' for depositing a minimum of 1% of the annual turnover in respect of any unit requesting permission for expansion provided it is considered by the Regulatory Authority. However all the industrial units situated in Patancheru and Bollaram should contribute an amount equivalent to 0.5% of the annual turnover towards the Fund. The contribution shall be continued till complete restoration of the entire affected area. The said Corpus Fund shall be operated jointly by the Chief Secretary and Chairman of the TSPCB. The amount shall be utilised for restoration of environment in the affected area and for other works as per the decision taken by the committee comprising of

- Ø The Chief Secretary to Government of Telangana
- Ø The Secretary to Government E,F,S&T Department
- Ø The Secretary to Government, Irrigation and Water Resources Department
- Ø The Secretary to Government, Industries Department
- Ø The Secretary to Government, Panchayati Raj Department
- Ø One Env'tl. Scientist from Osmania University, to be nominated by the Vice-Chancellor
- Ø One representative from a prominent NGO in Telangana involved in Environmental

Awareness Programmes

Ø One representative of BDMAI, preferably its President

Ø The Chairman of the TS Pollution Control Board who shall be the Convener.

(xi). The contribution as stated above towards 'Patancheru-Bollaram Environment Relief Fund' is independent of the payments if any, in future, to be paid under 'Polluter pays' principle and contribution for the establishment of Super Specialty Hospital.

(xii). NGT directed that at present there is no need of giving any direction against any of the units to pay penalty under 'Polluter pays' principle except leaving it to the authorities to invoke the same whenever they come across any violation.

(xiii). The Tribunal noted that on the factual matrix of the case, there is no necessity for appointment of any permanent authority by the Central Government by invoking powers under Section 3 of the Environment (Protection) Act, 1986. However, it is open to the Central Government to appoint any such authority for supervising and implementing various directions given in the judgment.

(xiv). Finally, the Tribunal concluded that the Corporate Social Responsibility (CSR) of the industrial units governed under the Companies Act, 2013 is independent of directions such as setting up of Super Specialty Hospital, contribution to be made towards 'Patancheru-Bollaram Environment Relief Fund' for restoration of environment etc.

BETTER BE AWARE OF POLLUTION – COMPONENTS AND THEIR RATINGS

(IN COMMEMORATION WITH WORLD ENVIRONMENT DAY)

**By
Dr. B. Raghotham Rao Desai.**

“A conscious mind is surely never at rest, allowing innumerable thoughts swing between opposites like a pendulum — The certainty (that we all crave for) seemingly nowhere in sight!”

Introduction:

Pollutants in the air we are breathing happen to be:

SO₂ (Sulphur Dioxide), NO₂ (Nitrogen Dioxide) and CO (Carbon Monoxide), while PM 2.5 & PM 10 (Particulate Matter pollution) also co-exist.

(i) Short-term exposure to Sulphur Dioxide can harm:

(a) the respiratory system, making breathing difficult,

(b) the visibility, by reacting with other air particles to form haze, and

(c) culturally imported objects (such as statues/statuettes and monuments), by staining.

(ii) Exposure to Nitrogen Dioxide results in:

(a) aggravating respiratory illness,

(b) causing haze to form, by reacting with other air particles, and

(c) causing acid rain, polluting coastal waters.

(iii) High concentration of Carbon Monoxide in air causes:

(a) reduction of oxygen-supply to critical organs (like heart and brain), and

(b) dizziness, confusion, unconsciousness and even death, if found at very high levels.

(iv) As for Particulate Matter pollution, it causes irritation of the:

(a) eyes, nose and throat, resulting in coughing severely,

(b) chest, which tightens,

(c) breath, which shortens,

(d) lungs, whose function is reduced, and

(e) heart, the beats of which become irregular, becoming susceptible to asthma attacks/ heart attacks & premature death (of people with heart or lung diseases).

Fact file:

There are established scientific procedures to record an overall Air Quality Index (AQI) score — more the figure more is the unhealthy level of pollution. A

healthy AQI Score of around 50 should be aimed at to get 'green code' awarded by a place. For example, on 07-3-'19 (Wednesday) around 1600 hrs (4.0 p.m.), following figures were recorded by the Observatories (as Weather Watch) in select Metros (Readings indicating av. AQI):

A hand holding a globe filled with various colorful icons representing different types of biodiversity, including plants, animals, and insects.

**Divisional Forest Officer
Narsipatnam Division**

949615/2017/IT SEC-RSS



ప్రజల్లో ముందు

రైతుకో ప్రాధాన్యత



రైతు సంక్షేమమే

ఈ ప్రభుత్వ లక్ష్యం

- ◆ ఇప్పటి వరకు ఇచ్చిన ఋణ ఉపశమనం రూ.14.710 కోట్లు (3వ విడతతో కలిపి).
- ◆ లబ్ధి పొందిన వంట ఋణము ఖాతాల సంఖ్య 57.57 లక్షలు.
- ◆ ఉద్యాన వంటల ఋణ ఉపశమనం రూ.384.47 కోట్లు.
- ◆ రూ.4495 కోట్లతో, రూ.50 వేల లోపు ఋణాలు తీసుకున్న 23.45 లక్షల రైతు ఖాతాలకు ఓకేసారి ఋణ ఉపశమనం
- ◆ ఋణ ఉపశమనంలో కొలు రైతులకు ప్రాధాన్యత ఇవ్వబడినది.
- ◆ మరణించిన రైతుల ఖాతాలకు కూడా రూ.51.54 కోట్ల పూర్తి ఋణ ఉపశమనం కల్పించబడినది.
- ◆ ద్రువీకరణ పత్రాలు ఇవ్వక లబ్ధితో కోల్పోయిన రైతులకు అవకాశము కల్పించి ఇప్పటికీ కూడా పూర్తి చారదర్శకతతో ఋణ ఉపశమనంకు చేయూత.



రైతు సాధికార సంస్థ, ఆంధ్ర ప్రభుత్వం

దేశ చరిత్రలోనే 24 వేల కోట్ల రూపాయల రైతు ఋణ

ఉపశమనం చేస్తున్న ఏకైక ప్రభుత్వం

ఋణ ఉపశమన పథకము 3వ విడత రూ.3600 కోట్లు విడుదల, రెండు సంవత్సరాలకు వార్షిక 10% వడ్డీతో



City	SO2	NO2	CO	PM2.5	PM10	Air Quality Code
Bangalore	4	43	57	93	141	Moderate
Hyderabad	57	99	47	125	147	Moderate
Delhi	16	108	62	191	257	Poor
Mumbai	9	12	77	37	97	Good
Panipat	-	-	-	-	57	Healthy AQI
Ballabgadh	-	-	-	-	328	Unhealthy AQI

Remarks: The dust when gets smeared with unburnt carbon (which results when combustion is not 100p.c.) it gets converted into what is called as a viscous element, and becomes black in colour. If we are exposed to such an atmosphere for long, immunity is lost and sneezing & wheezing increases.

Conclusion:

We may not all face overwhelming ordeals as such. At sometime or the other however, we are bound to encounter hurdles and hardships, which may range from minor mishaps to traumatic tragedies or even to daily struggles and stresses. **Afterall we cannot be expected to be gallantly going when the road is rough and the going is tough!**

Air pollution is an environmental hazard which is usually measured with Particulate Matter (PM) as a key indicator — the size of the particulates inhaled maybe coarse or fine, yet they get deposited in various parts of respiratory tract, which becomes a prerequisite for infections and a reservoir for transmission of infections to others. This may lead to pneumonia, chronic obstructive pulmonary diseases, allergies,

asthma and even lung cancer, and when exposed to harmful smog particles for a pretty long time: increased risk to diabetes as well.

There is no way to escape the impact of air pollution — whether one is rich or poor — the blue light radiating from the air purifier is just a cold comfort!

Disappearing green-cover appears to be contributing to the increase in air-pollution.

A city has to be decongested by creating mini forests — preferably of native species — of about 1.5 to 2 ha in each ward. Existing lakes, if any, in the area must be rejuvenated in addition.

Let me express a beautiful thought towards the end (words coming to my mind at the spur of the moment): **‘Concern and Service to Environment is the rent we pay for our stay and place on this Earth’.** We all live on this Earth and we owe it to safe-guard its environment lovingly, emotionally, morally and dutifully, to the extent and in the manner we possibly can — even if one helps a fainting robin unto his nest again, he/she has not lived the life in vain!

SUKUMARAN'S CASE – A LEGEND

By
K.B.R. Reddy

C. Sukumaran, a Range Officer in Tamil Nadu, had a tough time in fighting a legal battle from the Sessions Court at Dharmapuri, High Court of Madras at Chennai and up to the Supreme Court at Delhi. The Police Inspector was representative of the State at the Sessions Court, High Court and Supreme Court. It is sheer grit of Sukumaran and the good will of the lawyers, he faced all odds and won the battle and became a hero. Sukumaran's case is a saga, the kind of which is not found in the history of the forest department. After going through the judgment of the Supreme Court, I wrote a short history in the 'Legal Notes', published in the Vana Premi of May 2019 (Vol. 20 & No.5). I became curious to find the whereabouts of Sukumar; with the help of our colleague Sri N. Prasada Rao at Vijayawada, I found his address at Tiruchirapalli in Tamil Nadu. I made many calls to talk to him. He fought the battle at his own expense which had cost him a few lakhs of rupees. He faced the trauma of suspension and dismissal from service. Of course, he succeeded in getting bail for a period up to the end of the case. The judgment not only benefits him but also the entire forest fraternity as a legal precedent for exercising the right of private defense, when the need arises.

Chandrasekharan Sukumaran was born on 17.09.1951. After passing B.Sc. from Madras University in 1972, he was selected for

appointment as Forest Ranger by the then Government of Madras. He underwent training in forestry course at the Southern Forest Rangers College (SFRC) at Coimbatore during 1973-'75. For about 13 years, his service was peaceful and satisfactory until he was posted to Dharmapuri Range, an area where sandal wood smuggling was rampant and the smugglers had the blessings of Fugitive Veerappan.

Sukumaran was vigilant and was struggling hard to put down the smuggling by designing and devising different techniques of detection; one of them is to get information about occurrence of illicit felling of sandal wood trees and another was to make intensive patrolling of areas susceptible to smuggling. He was supplied with a gun and a jeep by the Government. On the fateful day, June 4, 1988, on receiving credible information, Sukumaran set out in his jeep with driver Chinnakulanthai and patrolled the forests of Nazanoor during the night. He was still on the job of patrolling on the morning of the following day i.e. on June 5, 1988 he found a lorry suspected to be smuggling sandal wood and started chasing it. After running over a distance, the lorry was stopped at Pennagram Road and four persons including the driver jumped out of it shouting 'shoot them'. The Range Officer took out his gun and fired at the

desperadoes; one person died and another ran away. The remaining two persons were apprehended and the lorry together with sandal wood was seized. Sukumaran made a report of the events to the police at Pennagram P.S. The report of the Range Officer was registered as First Information Report (FIR) and the police booked a criminal case against the Range Officer and the driver for the following offences:

1. Sec. 302 IPC for murder;
2. Sec. 109 & 203 I.P.C. for Abetment and furnishing false information;
3. Sec.36 of TN Forest Act for breach of rules;
4. Sec. 3 r/w Sec.25 of Alms Act.

The Range Officer was prosecuted in the Court of Sessions Judge at Dharmapuri for the aforesaid offences and the Additional Sessions Judge convicted and sentenced the Range Officer for life imprisonment and a fine of Rs. 2,000. He was also sentenced for other offences but the sentences were to run concurrently. The driver was acquitted. The Range Officer obtained bail from the High Court and filed appeal against conviction and sentence in the High Court of Madras. A Division Bench of the High Court considered the appeal and, while partly allowing the appeal, modified the order of conviction. The Range Officer was convicted for an offence under Sec. 304 (II) for culpable homicide not amounting to murder and sentenced him to undergo imprisonment for five years and fine of Rs.2,000.

Sukumaran was aggrieved by the judgment of the High Court and filed an appeal in the

Supreme Court. The judgments of the courts below were perverse and without proper application of mind. The attitude of the police was unrealistic, oppressive and blatant misuse of law. Little thought was given how a forester works in inhospitable areas.

The Hon'ble Supreme Court carefully examined the evidence of prosecution and found several defects in the evidence of the prosecution compared to the allegations mentioned in the charge-sheet. The Range Officer examined himself as a defense witness and the evidence of the Range Officer was found to be reliable and cogent. The Supreme Court also examined whether the appellant had the right of private defence in the facts and circumstances of the case. The evidence of the defense was tested under the principles laid down in the case law of Darshan singh vs. State of Punjab and it was felt that some of the principles are applicable to the case under appeal. The appeal was allowed and the Range Officer was acquitted. It is of course a landmark judgment.

It may be difficult to digest the agony and trauma suffered by Sukumaran for over thirty years which cannot be downplayed. He is now fighting with the Government to treat the period as on duty and give him promotion on par with his batch-mates. Since he has reached the age of superannuation, Government will also have to grant pension. The case of Sukumaran unmistakably is a legend.

FOREST FIRES AND ENVIRONMENTAL POLLUTION

By

V.SANTHASEELA BABU

Earth provides enough to satisfy every man's needs, but not every man's greed." Mahatma Gandhi

"This entire planet is our home. We are the only species that systematically destroy our own habitat" (Marianne Williamson (An American author, lecturer, and activist.)

"One person alone cannot save the planet's biodiversity, but each individual's effort to encourage nature's wealth must not be underestimated."- United Nations Environment Programme (UNEP)

This present period of the year is quite amenable for the Forest fires in our Forests which damage the Forests to a greater extent. Incidentally 5th June is being celebrated as "World Environment Day". Since Forests contribute to Carbon Sequestration, during a Forest fire not only the Forests are damaged but also the environment gets affected by the release of stored Carbon leading to Climate Change contributing to global warming.

Right from the pre-historic days forests are the part and parcel of human life. They are nature's greatest gift to humans. They not only provided shelter and protection to a large number of living beings, including pre-historic man, but also they have become a major source of food, wood and a great variety of other products. Since ancient times forests have played an important role in social, economic and religious activities and have enriched human life in variety of ways

both material and psychological.

"Forests constitute the largest, complex and most important natural resource mostly dominated by trees or continuous forest with trees usually growing to more than about seven meters in height, able to produce wood. It is also defined as the land with tree crown cover (stand density) of more than 20 percent of its area."

Along with other factors forest fire is a major cause of injury and loss to forests. With the growing population, the frequency and subsequent damage due to forest fire is increasing day by day. The impact of the fire is diverse on the forest ecosystem. Besides directly damaging the forest trees, the fire also adversely affects forest regeneration, microclimate, soil erosion, and wildlife etc. In most of the cases, the forest fire causes retrogression of forest vegetation. Forest fire is one of the major degenerating factors, which extensively damages the growing stock and its generations and making area vulnerable to erosion.

The word "fire" evolved from the Greek word "*pyra*" meaning growing embers. Fire is actually the heat and the light that results when three elements i.e. fuel, oxygen and the source are combined. The other elements, which determine the behavior of the fire, are weather, the landscape and the presence of the fuel. As

far as the birth of fire is concerned, fire emerged on the earth with its origin only. From the time our planet came into existence, lightening has sparked landscape. Artificial or the human induced fire began when the earlier human being first rubbed two stones. Discovery of fire has been a revolutionary invention of human civilization. The nomadic life saw a sudden change in its life style after this invention. It is interesting to know that the first experience of fire, which ancient human being felt was of forest fire. Thus forest fire has been an integral part of human civilization. The discovery of fire has perhaps been one of the greatest innovations of all time.

It had so much significance in the earlier history of mankind that they started worshipping it as God. In Indian mythology there are many evidences, where fire or '**Agni**' was worshiped and respected as '**Agni Deva**'. In Hindu mythology, a full volume on '**Agni Purana**' already exists, which is solely about the praise of this mighty source of energy. Land, Water, Air, Sky, and Fire are considered as "**Pancha Bhoothalu**" (Five Elements) in Hindu mythology which is essential for the survival of mankind. Not only in Hindu Mythology, other ancient mythologies also have more or less description of fire in its religious books. In Greek mythology, fire has been considered one of the four essential elements, along with water, earth and air. Forest fire may be defined as "**An unclosed and freely spreading combustion that consumes the natural fuels**". Combustion is another word for fire. When a fire burns out of control it is known as **Wild Fire**.

Almost everyone basically knows what a fire

looks and feels like, but in reality fire consists of four parts i.e. gas, flame, heat and smoke.

Fire Gas: These are the gases created by the combustion process. They are invisible to the naked eye, but they exist and include such poisonous substances as Carbon monoxide.

Flame: This is the light given off by the burning gas. As long as the three essential ingredients, fuel, oxygen, and heat are there, it can be seen.

Heat: This is the part of the fire that one feels as warmth. A normal fire usually burns at around 1,100° C.

Smoke: Smoke is a harmful vapor cloud mixed with a fine powder of solid particles and some gases. The solid particles in smoke create breathing and viewing problem during fire.

"Fire is a good servant but a bad master." the saying is true for forest fire too. Limited and controlled forest fires have been very useful and essential for healthy forest growth. But uncontrolled forest fire may engulf and destroy healthy thick forest cover within no time. Besides direct loss to forest cover, forest fire also kills wildlife, damages environment, degrades soil quality and retrogrades forest regeneration. Since historical times, forest throughout the world has been adversely affected by fire. Fire always causes many direct or indirect effects on the forest ecosystem. They may merely be beneficial but at most of the times these effects are deteriorating. The damage to a forest by fire depends mainly on size of the fire. The main adverse impact of the uncontrollable forest fire includes damage to growing stock of forests, loss of biodiversity,

increase in soil erosion, scorching of soil and reduction in its permeability and water retaining capacity and volatilization of the nutrients like Nitrogen. Not only for forest vegetation and environment, the forest fire causes direct loss to human being also in the form of damage to life and property.

Types of forest fire: Forest fires are not always same; they may differ, depending upon its nature, size, spreading speed, behavior etc. Basically forest fires can be sub grouped into four types depending upon their nature and size –

Surface fires: Surface fire is the most common forest fires that burn undergrowth and dead material along the floor of the forest. It is the type of fire that burns surface litter, other loose debris of the forest floor and small vegetation. In general, it is very useful for the forest growth and regeneration. But if grown in size, this fire not only burns ground flora but also results to engulf the undergrowth and the middle storey of the forest. Surface fires spread by flaming combustion through fuels at or near the surface—grass, dead and down limbs, forest needle and leaf litter, or debris from harvesting or land clearing. This is the most common type of fire in timber stand of all species. It may be a mild, low-energy fire in sparse grass and pine needle litter, or it may be a very hot, fast moving fire where slash, flammable under story shrubs or other abundant fuel prevails. A surface fire if spread may burn up to the taller vegetation and tree crowns as it progresses.

Underground fires: The fires of low intensity, consuming the organic matter beneath and the surface litter of forest floor are sub-grouped as

underground fire. In most of the dense forests a thick mantle of organic matter is found on top of the mineral soil. This fire spreads in by consuming such material. These fires usually spread entirely underground and burn for some meters below the surface. This fire spreads very slowly and in most of the cases it becomes very hard to detect and control such type of fires. It may continue to burn for months and destroy vegetative cover of the soil. The other terminology for this type of fire is *Muck fires*.

Ground fires: These fires are fires in the sub surface organic fuels, such as duff layers under forest stands, Arctic tundra or taiga, and organic soils of swamps or bogs. There is no clear distinction between underground and ground fires. The smoldering underground fire sometime changes into ground fire. This fire burns root and other material on or beneath the surface i.e. burns the herbaceous growth on forest floor together with the layer of organic matter in various stages of decay. They are more damaging than surface fires, as they can destroy vegetation completely. Ground fires burn underneath the surface by smoldering combustion and are more often ignited by surface fires. Thus a ground fire consumes the organic material beneath the surface litter of the forest floor. A true ground fire spreads by a slowly smoldering edge with no flame and little smoke. These fires are often hard to detect and are the least spectacular and slowest moving. Fighting such fire is very difficult.

Crown fires: Crown fires are the most

unpredictable fires that burn the top of trees and spread rapidly by wind. In most of the cases these fires are invariably ignited by surface fires. This is one of the most spectacular kinds of forest fires which usually advance from top to down of trees or shrubs, more or less interdependent of surface fires. In dense conifer stands with a brisk wind, the crown fire may race ahead of the supporting. Since it is over the heads of ground force it is uncontrollable until it again drops to the ground, and since it is usually fast moving, it poses grave danger to the fire fighters becoming trapped and burned.

Firestorms: Among the forest fires, the fire spreading most rapidly is the firestorm, which is an intense fire over a large area. As the fire burns, heat rises and air rushes in, causing the fire to grow. More air makes the fire spin violently like a storm. Flames fly out from the base and burning ember spew out the top of the fiery twister, starting smaller fires around it. Temperatures inside these storms can reach around 2,000 degrees C. Along with nature and behavior, the forest fires can also be categorized according to human management action. On this basis, fires in forest may be categorized as *management ignited fires* and *prescribed natural fires*. Management ignited prescribed fires are ignited in order to meet a land management plan objectives, such as burning in raising of plantations after clear felling, debris removal or wildlife habitat improvement and fire lines clearing. Prescribed natural fires are those that are allowed to burn under an approved plan and preserve the natural role of fires in the ecosystem.

Besides these, the fire may further be categorized based on their peculiar behaviour. There is specialized vocabulary used by the wild fire community for describing different types of fire behavior.

Ø A fire is said to be **running** when it is spreading rapidly.

Ø It is **creeping** when it is spreading slowly with low flames

Ø A fire is **smoldering** when it burns without a flame and is barely spreading.

Ø A fire is said to be **spotting** when it is producing sparks or embers that are carried by the wind or by the combustion column caused by the fire and start new fires beyond the main fire. The new ignition points are called spot fires.

Ø A fire is **torching** when it moves from one crown to another fire into the crowns of individual trees, but not necessary from one crown to another.

Ø It is **crowning** when it spreads from tree to tree usually in conjunction with, but sometimes completely independent of the surface fire.

Ø A **flare-up** is a sudden acceleration of fire spread or intensity of relatively short duration for a portion of the fire.

Ø A **blowup**, on the other hand is a dramatic change in the behavior of the whole fire, the point of rapid transition to a severe fire.

Pollution prevention is a major global concern because of the harmful effects of pollution on a person's health and on the environment. Environmental pollution comes in various forms, such as: air pollution, water pollution, soil pollution, etc. Everyone is a stakeholder as we

are all inhabitants of this '**one and only Mother Earth**'. Each person can contribute something to advance environmental pollution mitigation measures. Environmental protection means caring for our resources and subsequently for ourselves and ensuring a sustainable future for generations to come will have a better environment.

"If we heal the earth, we heal ourselves." – Wangari Maathai. (Founder of Green Belt Movement and 2004 Noble peace Prize Laureate)

We should therefore accept personal responsibility for the success of the environmental protection programs of our respective community by cooperating and actively participating in making the atmosphere pollution free. Help stop pollution today. Although on an individual basis, we can help combat pollution in our own immediate environment, efficient control can be best institutionalized through legislation. Thus, most countries have already addressed the issue by passing some form of pollution prevention measures.

Carbon sequestration potential- Trees act as carbon sinks when they absorb carbon dioxide from atmosphere and build up the same in the form of wood. Hardwood contains 48 percent of carbon in the form of cellulose and wood and it is estimated that 2.2 tones of wood are required to sequester one ton of carbon. On the other hand, while the wood is burnt the reverse process takes place in which the atmospheric oxygen is used and carbon-di-oxide is released into the atmosphere. Hence, forests act both as source as well as sink of carbon, depending

upon the manner and purpose for which they are raised and managed. Burning of the vegetation release hundreds of years of stored carbon-di-oxide (CO₂) into the atmosphere, and thus results into permanent destruction of important sink of carbon dioxide.

Forest fire and Climate change: "Fires are obviously one of the major responses to climate change, but fires are not only a response — they feed back to warming, which feeds more fires." When vegetation burns, the resulting release of stored carbon increases global warming. The more fires, the more carbon dioxide released the more warming — and the more warming, the more fires. The very fine soot, known as black carbon, that is released into the atmosphere by fires also contributes to warming.

Shifting Cultivation: The shifting cultivation is the farming practice where forest land is allowed to return to forest crop after a shorter period of use. In such practices, the forest vegetation are cut at the end of rainy season and allowed over to dry for some period and then burnt. The vegetation ash is left in the area, which provides sufficient nutrient for the agriculture crop.

Permanent Conversion: With the increasing population pressure, the forest areas in many countries are permanently converted to non-forestry purposes, such as pastures, agriculture land, resettlement and orchards. Such conversion of forest also follows after clear felling and setting the permanent forest vegetation on fire

Other causes: In addition to agricultural use,

the forest fire issues are linked with other economical and social factors also. Collection of non timber forest produce (NTFP) like *mahua*, *Sal*-seeds, *kendu* leaves etc. are other major causes for initiating forest fire in many developing countries. Besides economical issues, in some tribal clans forest is ignited to celebrate some ritual customs. This ignited fire usually spreads in the adjoining forest and results into catastrophe.

Averting the onset of pollution in any area; i.e. be it on air, water or land, could be a start and the simplest preventive solution to the problem. This calls for a conscientious effort to adopt good practices or habits by the people, the passage and the proper implementation of appropriate government laws and strict compliance especially by potential industrial pollutants. If there are no pollutants, there will be no pollution. And yet, this is easier said than done. Certain bad habits are entrenched and industrial development somehow carries with it the concomitant burden of pollution. The cost to business and its commercial ramifications make this rather simple preventive approach quite complicated and more difficult to implement.

Everyone can help by self education and by adopting good and healthy practices. It is also important that we help raise awareness about the significance of environmental issues, their dire consequences and what can be done. Every action or inaction of any person in regard to her or his surroundings has an effect- be it good, neutral or bad- on the environment. Nature already provides for our needs. **"Whatever we**

do to it gets back to us". If we are friends of the earth, it will also be friendly to us. By becoming aware and doing the right action, we choose to be part of the solution. What comes to mind now to serve as reminders include the following.

- Stop smoking or at least follow the "No Smoking" sign.
- Use unleaded gasoline in your cars.
- Keep your car properly maintained to keep it in good running condition to avoid smoke emissions.
- Share a ride or engage in car pooling.
- Instead of using your cars, choose to walk or ride a bicycle whenever possible. With this eco-friendly practice, you will also be healthier and happier by staying fit.
- Never use open fires to dispose of wastes.
- Adopt the "3Rs" of solid waste management: 'Reduce, Reuse and Recycle.' Inorganic materials such as metals, glass and plastic; also organic materials like paper, can be reclaimed and recycled. This takes into account that the proven solution to the problem of proper waste management (especially in third world countries) is proper disposal (in waste bins for collection and not in the street where it could fall into drains), waste segregation and collection, and recycling.
- Start composting brown leaves in your yard and green scraps from your kitchen. It will reduce waste while improving your yard and garden soils.
- Reconnect with nature. Live green by using green power supplied abundantly and freely by wind and the sun. Hang your laundry to dry

to minimize use of gas or electricity from your dryers. Enjoy fresh air from open windows to lessen the use of air conditioning system.

- Patronize local foods and goods. In this manner, transporting goods and foods prepared with GMOs (Genetically Modified Organisms) which uses fuel from conventional energy sources will be minimized.

- Use eco-friendly or biodegradable materials instead of plastic which are made up of highly toxic substances injurious to your health.

- Create your green space. Value your garden. Plant more trees and put indoor plants in your homes. They clean the air, provide oxygen and beautify your surroundings. Thus, care for them and by protecting them, especially the big trees around and in the forest, you protect yourself and your family, too.

- Have a proper waste disposal system especially for toxic wastes

- Take very good care of your pets and their wastes.

- Never throw, run or drain or dispose into the water, air, or land any substance in solid, liquid or gaseous form that shall cause pollution.

- Do not cause loud noises and unwanted sounds to avoid noise pollution.

- Do not litter in public places. Anti-litter campaigns can educate the populace.

- Industries should use fuel with lower Sulphur content.

- Industries should monitor their air emissions regularly and take measures to ensure compliance with the prescribed emission standards.

- Industries should strictly follow applicable government regulations on pollution control.

- Organic waste should be dumped in places far from residential areas.

- Say a big "NO" to GMOs or Genetically Modified Organisms. Genetically engineered crops are not only bad for the environment since they require massive amount of fungicides, pesticides, and herbicides; but GMO altered foods are also health risks and negatively impact farmers' livelihood.

- (Source: Forest Fire Disaster Management published by NIDM. Authors: Dr. Satendra & Dr. Ashutosh Dev Kaushik)

Finally let us emulate the slogan: "VRIKSHO RAKSHATHI RAKSHITAH"

NOTICE

The 91st GENERAL BODY MEETING of the Association of Retired

Forest Officers of Telangana and Andhra Pradesh will be held

on 30 June 2019 at 11 AM, at Aranya Bhavan.

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

Secretary

WHY PARENTS NEED TO DITCH TRADITIONAL DISCIPLINE

By
V.V.HARIPRASAD

Toddlers (Young children) are brilliant. Aren't they? They live in the present moment. They're capable and innocent. And perhaps our favorite trait – they're authentic. They're unfiltered. They're among the most honest humans on the planet. They're unapologetically themselves.

But, perhaps they're also the most misunderstood humans on the planet.

We, adults, have forgotten what it's like to be a toddler being influenced by hypocrisies. To be small and dependent. To be constantly learning. To feel only one (strong) emotion at a time, yet not have the tools to regulate that emotion. To experience the most rapid brain development of one's life.

Instead, what our culture chooses to see are toddlers 'throwing' tantrums (fit of bad temper). Pushing our buttons. Testing our limits. Acting clingy uncivilized and impolite.

This perspective can make us feel as though we've lost control. As if we're 'bad' parents. As if we're failing.

"Dandam dasagunam Bhavet," "spare the rod spoil the child" so say the dictums. we're encouraged to control our children; to leverage our size and power.

Mainstream parenting focuses on modifying superficial behavior and resorting to tactics like punishments, time-outs, threats, bribes and rewards under the justification that perpetuating

a dominance hierarchy is somehow serving the greater good. And when these scare tactics don't work...we escalate the punishment.

But, what if, there's absolutely nothing wrong with our children? Nothing is to be fixed. What if the problem is a lack of knowledge, understanding, and empathy within our society? And what if these techniques threaten to erode the ONLY influence you truly have with your child – your relationship.

Western society expects a parenting approach based on an adult's wants rather than a child's needs. But, what if, through our relationship, an understanding of child psychology and brain development, and a shift in perspective, we could find a way to be in harmony with our young children and grow alongside them? Becoming better people ourselves

So, let's dig a little deeper into the science of growing up. Let's seek to understand WHY young children behave the way they do so that we can feel confidence and gratitude as we stand beside them, guiding them with patience and compassion on this adventure called toddlerhood.

When does the brain grow up?

As humans evolved to walk on two legs rather than four, the size of the pelvis needed to shrink considerably. For women, childbirth became more challenging; we evolved to give birth to

our babies at a much earlier stage of development so that a newborn's head could safely pass through the narrower birth canal. Some say, compared to other mammals, humans are born only half way through gestation; similar to baby kangaroos.

The biological trade off? Undeveloped brain = immature, helpless, dependent baby.

Compared to other mammals, the human brain is tiny at birth; a mere 25% of its ultimate adult size. Animals born into hostile environments tend to have larger infant brains to help them survive. Zebras, for example, need to be able to run with the herd just hours after birth – their relatively mature brains help them run and respond appropriately when a lion appears.

But, mother-nature always has a survival strategy in place. So, what is the survival strategy for human babies with such tiny brains? Easy mum and dad. Babies (and toddlers) are designed to keep us close most, if not all the time in order to protect them.

We're *designed* to form secure attachments for a reason – in order for our species to survive and thrive. *John Bowlby, British psychoanalyst and Founder of Attachment Theory, hypothesized that healthy attachment is crucial to promote emotional regulation and is vital for optimal brain development.* Our interactions with our children, whether positive or negative, affect the way their brains grow

5 Natural Parenting Secrets that Make Kids Want to Cooperate

Natural Parenting Secrets that Make Kids Want to Cooperate (No Timeouts, Threats or Punishment Required!)

The National Institute of Mental Health suggests the brain doesn't fully mature until our mid-late twenties. The frontal lobe, responsible for judgment, planning, assessing risks, and decision-making is the last region to complete development around age 30. So, what does this mean for us, as parents?

It means we need to be patient and compassionate with our kids. It means children are often incapable of the unrealistic expectations we place on them. It means that no matter how smart we think our three-year-old is, no matter how much we wish he could rationalize and reason, he simply doesn't have the brain of an adult. *We may hope kids will behave with self-discipline and self-control, but until their brains mature, it is our responsibility to guide them.*

How positive parenting encourages healthy brain development

Albert Einstein once said the most important question for us to answer is, "Is this a friendly universe?" Infancy and childhood are when we begin to answer that question. As a species, we are adaptable precisely because we are unfinished at birth. Children "build" a brain, that's best suited to the environment they experience. A staggering seven hundred new neural connections (synapses) are formed in the brain every single second, equating to over

one thousand trillion synapses by a child's third birthday.

But the process of brain development doesn't end at age three; by the time children reach their teenage years the number of neural synapses actually halves from one thousand trillion to five hundred trillion in a process called neural pruning.

So why would the brain create more synapses than it needs, only to discard the extras?

The answer lies in the interplay of genetic and environmental factors. While genetics provides a blueprint, it's a child's environment and their experiences that carry out the construction, forming the essential wiring of the brain. Repeated use of particular pathways strengthens individual connections.

Synapse strength is vital in developing emotional regulation abilities. This is why it's critical that we provide our children with experiences that contribute to healthy brain development. For example, a child who experiences excessive stress will develop a larger brainstem – the part of the brain responsible for the fight, flight, freeze response. These children are more likely to become adults who are overly reactive to stress. Why? Because their early experiences suggest that they need to be on high alert. That, their environment is unsafe.

On the flip side, a child who experiences nurturing and responsiveness is able to devote their energy to growing a larger prefrontal

cortex – the part of the brain responsible for emotional regulation. These children are more likely to become adults who are calm and emotionally stable. Why? Because their early experiences of interdependence and responsiveness suggest that their world is safe and that they can rely on those around them.

This is the type of care humans are biologically wired to expect.

Developmental psychologist Erik Erikson proposed that healthy psychological outcomes are dependent on the quality of care giving. When the balance of care is empathic babies and toddlers grow into children who naturally trust the world. And trusting children feel confident about venturing out and exploring independently. This is how true independence develops.

Why Toddlers Need Meltdowns.

Toddlers build up stress hormones as they cope with the challenges of daily life. But the part of the brain, which allows them to express strong emotions verbally, the prefrontal cortex, still isn't fully developed. This means that toddlers can experience an intense emotion, but they don't have the ability to verbalize, nor deal with it. So, Mother Nature designed toddlers with a foolproof method to release emotional overload: meltdowns (or tantrums).

Toddlers don't enjoy tantrums. They don't intentionally "throw" a tantrum to manipulate us. Tantrums are outside a toddler's conscious control.

When emotions overwhelm a young child, their brain isn't able to maintain rational control. Their physiology helps restore equilibrium by having a meltdown to release their feelings and frustrations.

Tantrums are an opportunity for us to connect and deepen the trust our children already have in us. Tantrums are an opportunity to learn as parents. Tantrums are an opportunity to dig deep, to lean in and to help your child in the way they need.

Tantrums are an opportunity to up your game as a parent.

As unbelievable as it may sound, once a parent realized this, "I can't say I looked forward to tantrums but I didn't dread them. I didn't try to stop them. I didn't fear them. I started approaching them with curiosity and wonder. I started expecting them, just as I expected my son to be hungry or tired."

So, what's the best way to deal with a tantrum? Firstly, one has to remember a tantrum is not a reflection on you. Let's repeat that; your child's tantrum is not a reflection on you or your parenting. What is a reflection on you is your response to the tantrum. Can you find the courage to disable generational imprinting and cultural expectations and be the calm in your

child's storm? You cannot control another person, but you can choose your response.

"Release your attachments to how things "ought" to be and instead surrender to how they actually are." says Dr. Shefali Tsabury an eminent Psycho analyst.

So, remember tantrums are normal and healthy. Take a deep breath. Close your eyes for a moment if you need to. Do whatever you need to do to center yourself. You are your child's compass. You are their guide; they need to feel the reassurance that you are in charge, that you have their back and that they can rely on you when they feel like they are drowning in a sea of wild and unpredictable emotions. Sit patiently with your child. Hold her close. Empathize. Observe.

Conclusion: "Either we spend time meeting children's emotional needs by filling their cup with love or we spend the time dealing with the behaviors caused from their unmet needs. Either way we spend the time." Pamela Leo. Probably one has to rethink of the traditional Indian approach of "*Dandam dasa gunam bhavet or Spare the rod and spoil the child.*"

Source: Internet (Courtesy M.Neeharika Srikant , California U.S.A)

*If we care and love our environment,
it will return more to us.*

THE RELEVANCE OF HERBAL MEDICINE

By

D. Basava Sankar Rao

India has been very popular for herbal medicine and the system of Ayurveda which has been quite popular in India for centuries together use herbal medicine even for curing diseases like Cancer. It is a known fact that the alkaloids vincristine and vinblastine extracted from the parts of *Catharanthus roseus* a plant native of Madagascar have been put to use in the preparation of medicine for Leukemia, the blood cancer a dreadful disease. The forskolin content extracted from tuberous roots of *Coleus forskohlii* has been put to use in the preparation of drugs for curing obesity. Turmeric for which patent was claimed by the university of Mississippi medical centre USA in 1995 for wound healing has been part of traditional medicine in India for which patent granted was revoked in 1996 because of the efforts put in by CSIR on the grounds of existing prior art.

In the context of the prevalence of herbal medicine in India on a big scale conservation and sustainable harvesting of medicinal plants has lot of relevance in our country and lot of research and field trials have been in vogue for quite some time all over the world in general and in India in particular in this regard. Conservation of biodiversity and its sustainable use play a vital role in this regard.

There are several methods of conservation of medicinal plants and their sustainable use which have been adopted all over the world.

Sustainable harvesting of medicinal plants not only adds income to the country but also makes herbal medicine affordable in the context of people's health in dealing with simple ailments instead of their approaching allopathic doctors..

It is imperative that one has to deal with Non Wood Forest Products (NWFP) collection from the natural resource for the benefit of the villagers residing in and around our forest areas. Consequently they will be increasing their attachment towards our preservation of our forests without causing destruction provided their partial needs are met with and at least some income gets accrued to them.

One of the major problems of harvesting of medicinal plants or their parts such as collection of Bark, Roots, Gum etc., unlike taking up collection of usufruct items of "TRIPHALA" namely *Phyllanthus emblica*, *Terminalia chebula* and *Terminalia bellerica*. Several agencies carried out research through field experiments for sustainable and Non-destructive harvesting of useful parts of the medicinal plants.

There has been a major demand for the bark of *Holarrhena pubescens* (kodisa pala) in view of its medicinal properties in curing amoebic dysentery Arya Vydyala, Kottakkal (AVS), Kerala has carried out lot of research on bark formation and sustainable harvesting. **KUDAJARISHTA**, an Ayurvedic preparation

which is being prepared using the bark of *Holarrhena pubescens* for curing amoebic dysentery has been proved to be more effective than allopathic medication. Kottakkal Arya Vydyasala has developed non-destructive harvesting of ROOT, BARK etc. of various species on sustainable basis

Another constituent **Catechin** has been processed from the heartwood of *Acacia catechu* (Sundra) in Adilabad district for the last number of years. It's heartwood is widely used for katha in Pawn making. it was banned keeping in view conservation of forests. As Catechin is medicinally important for weight loss, in view of heavy demand an alternative was discovered called "*Uncaria gambir*". Larger quantities of Catechin have been exported from Philippines and Indonesia to different countries all over the world in view of its heavy demand

Coming to the aspect of harvesting of roots major demand has been there in case of *Decalepis hamiltonii* (Maridu gaddalu). The GCC has been encouraging harvesting the roots of the species by Girijans. In this connection the personnel from Forest Dept. and the GCC have trained the girijans in adopting sustainable harvesting practices of this root. The procedure involves avoiding removal of the main crown portion and harvesting only the side roots. In spite of this, in view of its heavy demand, over harvesting has been resorted to because of which there is acute shortage of the said root materiel. Basing on its heavy demand the farmers also started its cultivation in several drought affected areas, but the paucity of the

root materiel is still being felt by the producers of the Ayurvedic medicines. It is not an exaggeration to state that the cost of its dried root per kg Increased from Rs.18/- to Rs.450/- per Kg within 15 years. The GCC recently started a juice processing unit out of this ROOT at Chittoor.

Similarly, in the process of extracting "Camptothecin" from the wood of *Mappia foetida* the producers switched over to a weed called *Ophiorrhiza mungos* a species abundantly available. "Campothicin" is an essential constituent for treating cancer.

Cinchona officinalis is a medicinal plant, used for the production of quinine, useful in the prevention and treatment of malaria. *Cinchona calisaya* is the tree most cultivated for quinine production. The bark extraction of Cinchona trees, for anti malarial drug preparation was stopped as alternative and better solution came in the shape of leaf extraction from the six month old plant of *Artemisia annua*. Better seed of this species is being developed under Sanjeevini programme taken up by CIMAP, Lucknow.

Conclusion: Western countries have also recognized the importance of herbal medicine. Ayurveda and Yoga have been given importance not only in India but also outside India be it Japan China or USA. Consequently in the process of conserving nature and biodiversity countries all over the world recognized the importance of in situ and ex situ conservation of forests at all costs.



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



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

Rehabilitation of RF land (Non mandated)

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



THE SINGARENI COLLIERIES COMPANY LIMITED

(A Government Company)
Telangana State

GreenAP Mobile App



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

Salient Features



Vendor Directory



News



Enquiries



Forums



Events

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



Download **GreenAP** app today!



For more information, please contact our help line number: **+91 7997650835**

RAIN WATER HARVESTING FOR WILDLIFE/ UNDER GROUND WATER RECHARGE

By

B. M. T. Rajeev

Depletion of natural sweet water resources-the lifeline of all bio-resources-flora and fauna on the earth is one of the daunting problems that the world is facing today. The sources of surface and underground sweet waters of the earth are depleting due to Global Warming (GW), Climate Change (CC). The sources of surface waters are rains, snow and dew.

The rain fall-water, a portion of it is lost by evaporation, infiltration in to the ground through the root system of the vegetation/porous soils and rest moves on... as run-off and flows out.

The rain water flowing in galleys, streams and rivers continues to flow and a portion is collected in ponds, tanks and reservoirs and rest reaches the seas; and it is the surface water available for the man and animals for use. The use of water by man is so high for his consumption/ utilities, irrigation, hydro-power generations, industrial and infrastructural developments; the consumption went high and led for the construction of more and more water storage bodies to impound more and more water, disturbing the natural water regimes of the earth. The impounded water bodies too could not meet the ever rising demand for water....and they went dry due to failure of rains on account of GW and CC. As a result, the surface water resources like streams, small rivers, ponds, tanks and medium reservoirs depleted in capacity and went dry fast leaving some perennial rivers/

reservoirs fed by snow caps and rain forests live (1970s).

The **depletion of surface water resources** led the civilization to look for the underground water resources. The invention of bore wells and powerful pumps became handy for exploitation of the underground water for farming and to meet the drinking water requirements of the human and his cattle population (1980s); led the good old Under Ground Water (UGW) harvesting structures like ponds, open wells to go dry; and boosted the farming and expansion of human population/ industries that were limited to river valleys-surface water resources to the places of human choice. The bore wells were/are dug deep in to 1000-1200 ft below the ground level to exploit the UGW stored in the earth from time immemorial. The exploited UGW was supplemented with recharging by the rain water naturally due to droughts. The over exploitation of UGW more than the recharge, caused for depletion of Under Ground Water Table (UGWT) and bore wells went dry. The streams and small tanks and the top soil of the earth started dehydrated and went dry (1990s). The unchecked exploitation of the UGW caused for the depletion of the UGWT deep below the ground level and led for drying up of bore wells and in some cases affected the quality of UGW in to brackish and unfit for human consumption-

this situation led for governments to augment the UGWT by recharging through the rain water harvesting (1990s)

To harvest the rainwater and also to stop soil erosions- that causes depletion of soil fertility, silting up of water bodies/ depletion of UGWT- **Soil and Moisture Conservation (SMC)** measures schemes-like creation of water harvesting structures/ improvement of dry lands cultivation/horticulture and afforestation were started and implemented throughout India since the past 5 decades. But, the success achieved could not overcome the onslaught of the over exploitation of the UGW and over use of the earth with deforestation.

With the March of modern civilization encouraged by benefits/fruits derived from the Science & Technology, the man is on for progress but, the availability of potable water is putting a break for his ambition with the threat of **WAR for WATER**. Come summer, there will be cry for water in most of the arid regions of rural India. Droughts have become common and the perennial water resources like dams, Rivers including bore wells are going dry forcing the people to look for the remedy.

The plight of the wild animals especially the non-migratory animals and birds is precarious and some are dying in the summers for want of water. The same case with the small flora too. The situation has reached the stage that the wild animals in the famous Tiger Reserves/ Wildlife Sanctuaries of the Karnataka/India in dry zone are fed by water either from bore wells or by imported in tankers (2015). More than 50% of the villages in dry belt of Karnataka are supplied with water brought in takers. It has become common every year.

The scientists are pleading the public to make use of the Rains to overcome the famine of drinking water in the summers. Rain is the source of sweet and potable water for all living beings except the aquatic flora and fauna of the seas. Whatever may be the quantum of rain fall- a region receives, should be harvested to augment the surface water storage/ UGWT to meet the shortage during summer. The most beneficial and easy method is the recharging of UGWT for use when required.

There are many **models for harvest of rain water** to impound and also to recharge the UGWT. The models are well designed in soil engineering, SMC models for agriculture, horticulture and forestry departments and are being practiced to augment the surface water storage/ recharge UGWT.

The Rain water harvest to store water/ recharge UGWT in Protected Areas (PAs)/Forests is very important to retain water in the water holes for the animals and also to prevent the dryness of the habitats in summers in the interest of maintaining healthy habitat for the animals. Some of the principles followed for rain water harvest are as follows.

a) Old ponds: The existing old water holes need to be listed and service register of old water holes need to be maintained and recorded. The water holes need to be de silted once in 3-4 years and the inlet like open arms of human created (If not formed/ not found) to intercept the run-off from its catchment in to the pond for impounding. If a waste weir is needed, it also should be created to prevent the breaching of its bund (if it is a pond with bund).

b) New Ponds: Wherever old ponds are not found in the PAs or in RFs, action needs to be taken to create ponds similar to Farm Ponds in dry zones by selecting the site conducive for a pond with reference to topo sheet in low lying flat area -where the soil is impervious to hold water for longer period. The site of pond should be delineated on topo sheet with the catchment and located on the ground for exploration of the feasibility scientifically. Then it needs to be constructed with excavation of 200 cmtr or more depression, formation of bund, waste weir, shoulder inlet drains for collection of 200 cmtr or more rain water to provide water to the wildlife. It should be independent micro water shed. . It should not be across a nallah or stream. The pond will provide water to wildlife and recharge the UGWT and also improve the soil moisture and vegetation in the downstream side of the pond.

NB: The quantum of water in any determined catchment area can be calculated with the formula $Q=CiA$, where Q =quantum of discharge, A =Area of the catchment in square unit, C =coefficient of the rainfall, i =intensity of the rainfall (Any Irrigation Engineers will help in this calculation). The ponds formed in the low lying swamps or at downstream side of the perennial springs make a good Oasis during summer to the wild animals by holding water in summers for long or perennial. There is no dearth for funds under drought relief or MGNREP to go for this type of new water holes for wildlife and also for recharging the UGWT. (If the site selection left to RFOs- some of them, will make the ponds defunct before construction as I had experienced-in Tumakuru SF Dvsn).

The provision of one water hole for every 4 square km of the wildlife habitat is the principle of wildlife management to ensure water at a distance of 2 km or less for an animal from any of its position in the forest.

c) Soil & Moisture Conservation (SMC) measures are common in PAs/forests of dry zone. If not attended, the gully plugging has to be taken up in sloppy areas starting from ridge to bottom. The check dams (CDs) need to be built to impound water and also to recharge UGWT. The salient features for **selection of site for CDs** are as follows...

- i) CD site should be across a small or medium nallah
- ii) The nallah should be wide, deep with high banks in a flat area to impound more back water for a distance of 200 to 500 m or more.
- iii) CD should not be selected in a site where silt load is more in the nallah
- iv) CD should not be built in sloppy area-as it will not hold more water.
- v) CD built in a swampy flat area will be an attractive water hole-for animals during summer and it will not silt up too.

d) SMC- double trenches and mound (DTMs) in dry and arid zones to check the sheet erosion of soil, to recharge the UGWT and also to improve the vegetation.

Excavation of contour staggered double trenches of size 4m x 1m x 1m @ an escapement of 15 m or 20 m or random @ 100 DTMs per ha with formation of 3m long shoulder drains of 30cm x 30cm size like stretch opened arms of human to intercept the run-off. The upstream edge of the DTM should be lowered for 30 cms. and mound formed and

sown with of grass/ bamboo seeds. DTM should be planted without refilling with 3 potted seedlings of Bamboo, Tare (*Terminalia belerica*) and Neralu (*Syzezium spp*) or Honge (*Pongamia glabra*-in case of non-PA areas).

The DTM of 4 cmtr earth work will impound water in all the showers for years up to its capacity on par with the intensity of rains and recharge the UGWT and improve the moisture content of the soil around it and will also boost the growth of grass and vegetation around it. In course of time- the trees sown/planted in it will develop and improve the habitat.

DTMs of this size in open forests of flat areas like- eg. Naganapura RF and Kaniyanpura RF-eastern Foot hills of HG hills of Bandipur TR are well suited for this type of treatment-

Eg:1. This method of treatment of open TMs of 4mx 0.5mx 0.5m size done in Kalyanakere MavathurKere Water sheds-Nelamangala in 1990-92 shown very good success. And it was observed to be done in Chamundi hills-Sothorn side.

Eg:2. This DTMs treatment was done in a old Eucalyptus plantation in the state border in dry zone close to Madakasira in Pavagada taluk in 2005 under drought relief funds- which shown holding of a herd of Black bucks in it till the water lasted. It was done in older plantations in Gubbi / Sira/Thuruvekrere/Chickananayakanahalli taluks too for recharging UGWT in 2005 under drought relief funds limit to funds.

NB- if a Singapore cherry is planted as nurse plant very close to the Bamboo seedling-it will boost up in a year and camouflage the bamboo seedling against cattle/herbivores attack and allow it to come up. Singapore cherry will bear

flowers/fruits for 6 month in a year and become a host to bees and birds and ungulates for 20-30 years or more.

Drought and wildlife: Droughts, incessant rains with cloud burst, cyclones and Tsunami have become common as a consequence of GW and CC-a natural phenomena throughout the world in since dawn of the 21st century. Man is managing with his ability to cope up with adverse impacts of the CC. But, the real sufferer is the wildlife and the smaller flora. The wildlife those are not capable of going on migration are perishing in the hot Sun/heat waves during summer. To lend service to the denizens the society need to take up the following measures.

1. To install birds bath with water pipe connection in front of all government offices and schools wherever big openings in the front is available and in parks.
2. Law to build 3.00m Or 2.00mx 1.00m x 1.00 m RCC cubicle water tank close to all irrigation bore wells similar to the cattle watering points near rural water supply outlets in villages by the Zilla Panchayaths and persuade the farmers to fill water to the tanks and maintain water in them during summer for watering of the wild animals and birds.
3. To build CDs in rural areas across streams at swamps and near to perennial springs to store water and provide watering points to wild animals and birds in summer/cattle since the wildlife is ubiquitous and not confined only to the forests.

The author is a former Deputy Wildlife Warden, Karnataka and a writer. Ph: 9632781811

ELEPHANT TRANSLOCATION

By

Dr. M. Navin Kumar

As per the orders of Central Zoo Authority, New Delhi, Govt. of India to translocate two Elephants from Aurangabad to Visakhapatnam, of Andhra Pradesh, the loading of elephants started on 09.12.2017 at 10:00AM but all efforts of loading the animals into the truck failed as one of the animal refused to get into the truck. This elephant was not having sufficient training to be loaded in to the lorry. This elephant's name was Lakshmi which is 23 years old and was born to Saraswathi which is 54 years old. Elephant Saraswathi was crated easily by the Elephant Keepers but had to be de taken out from the truck since Lakshmi was refusing to get into the truck, hence the operation was post-phoned to the next day.

The loading operations were started after summoning for crane and subsequently in the trucks wooden cross bars behind the driver's cabin and side logs were fixed for facilitating the Elephant to stand and travel throughout the journey covering about 1200Kms from Aurangabad, Maharashtra to Visakhapatnam, A.P. The route for the journey was finalized, via Beed, Sholapur ORR, Hyderabad ORR, Vijayawada ORR, Rajahmundry ORR and to reach the IGZP, Visakhapatnam.

Lakshmi which is aggressive and was given a mild sedation and pulled into the truck with the help of the Crane. Secured it with cross wooden bars behind and sides of the Elephant. Necessary feed and water was carried along. The other Elephant Saraswathi was easily loaded into the truck with simple commands. The journey started at 03:00PM on 10.12.2017. After reaching Sholapur Highway the cross bars of the truck in

which Lakshmi was loaded developed snag and hence the wooden cross bars were secured again after sedating the elephant as it was arrogant and not allowing the keepers to work. The journey again started for the entire day and reached Sangareddy at 05:00PM and while passing Sangareddy Town a mild accident took place in which sudden breaks were applied and due to the impact the cross bars again broke. Again the animal was sedated and new cross bars were secured, the journey started and reached Vijayawada at 10:30 AM next day i.e. on 12.12.2017 and subsequently the journey started towards Visakhapatnam but Elephant Lakshmi again got agitated near Rajahmundry and broke all the cross bars hence the animal was again sedated and cross bars were secured. The journey started and finally reached Indira Gandhi Zoological Park, Visakhapatnam of Andhra Pradesh at 10:30PM on 12.12.2017.

The animals were unloaded in Visakhapatnam Zoo and enclosed in the Elephant enclosure by 03:00AM on 13.12.2017.

Both the Elephants Saraswathi and Lakshmi were transported with the team of, two Helpers working with Elephants in Aurangabad but without any trained *Mahavat*, one keeper one Beat Officer, one Jr. Veterinary Officer and one Driver from IGZP, Visakhapatnam under my over all supervision.

Conclusion: Translocation of Elephants especially semi-wild and without proper training and management is a hectic task and risky without a trained Wildlife Veterinarian. However, the translocation was successful and a good experience.

TREE BORNE OIL SEEDS: A FUEL FOR FUTURE

By

N.KRISHNAKUMAR¹ K.T.PARTHIBAN¹ AND K.P.VIJAYALAKSHMI²

INTRODUCTION

Self-reliance in energy is vital for the economic development of any nation. The need to search for alternative sources of energy that are renewable, safe and non-polluting assumes top-priority in view of the uncertain supplies and frequent price hikes of fossil fuels in the international market. India possesses a total forest area of about 19.14 percent which besides providing valuable timber are potentially rich source of raw materials of industrial importance. More than 100 different perennial oil seed bearing trees are known from Indian forests, which can be exploited for extraction of oil. It is however reported that only 10 percent of the total potential of seed is currently being tapped: thus there is a vast scope for increasing the production of oil from these sources. The demand for oils for industrial and home consumption has been steadily rising with the increase in population but there has been no corresponding increase in the production of oils. In fact shortfall of oil production, both for human consumption and industrial purposes has assumed serious proportions, necessitating massive imports. The country's dependence on imports can be considerably reduced by proper and systematic exploitation of tree borne oil seeds.

In recent times, increasing interest has been arising across the nation towards the utility of non-edible oil seeds in particular, the oils from *Jatropha*, *Pongamia*, *Undi*, *Simarouba* and *Mahua* as a source of bio-fuel or as bio-diesel. This is because TBOS has the requisite potential of providing a promising and commercially viable

alternative to diesel as it has the desirable physico-chemical and performance characteristics comparable to diesel.

TYPES

Bio fuels are derived from renewable bio-mass resources and, therefore, provide a strategic advantage to promote sustainable development and to supplement conventional energy sources in meeting the rapidly increasing requirements for transportation fuels associated with high economic growth, as well as in meeting the energy needs of India's vast rural population. There are three types of bio-fuels:

(i) First generation bio fuels: First generation bio fuels are made from biomass consisting of sugars, starch, vegetable oils, animal starch or biodegradable output wastes from agriculture, industry, forestry and households using conventional technologies. Bio-diesel and bio-ethanol comes under first generation bio-fuels (Patni, 2011a, and Patni, 2011b)

(ii) Second generation bio fuels: Second generation biofuel technologies are gaining importance because first generation bio fuels manufacture has got major limitations. The primary one is that, they cannot be produced beyond a threshold level without threatening food security. They are also not cost-competitive with existing fossil fuels. The second generation fuels are more sustainable, affordable and have greater environmental benefits. However, they have not become popular because the technology for producing these is not yet standardized. Further;

Lignocellulosic materials can be converted to alcohol. Organic waste material converted into energy forms which can be used as an automotive fuel: waste oil (e.g., cooking oil) into biodiesel; animal manure and organic household wastes into biogas; and special strains of algae, agricultural and forestry-waste products into ethanol. It also helps to diminish waste management problems (Raju, *et al.*, 2009).

(iii) Third and Fourth generation bio-fuels:

The third generation bio fuels include Algal biodiesel, Algal hydrogen and conversion of biomass to hydrogen whereas the fourth generation bio fuels include bio fuels from high solar efficiency cultivations. However, these are still at a nascent stage.

ADVANTAGES OF BIOFUELS

Bio fuels offer a number of environmental, social and economic advantages. The use of bio fuels may lead to reduction in vehicular pollution and greenhouse gas emissions as it is established that the emission of sulphur dioxide (SO₂), particulate matter and carbon monoxide (CO), etc. are less from bio fuels. The economic and social benefits arising out of the development of bio fuel sector through increased income and employment opportunities for the rural communities is also highlighted. The greening of wastelands and regeneration of degraded forest lands through cultivation of bio fuel crops is another added advantage.

THE FUTURE OF BIOFUELS

In light of the fact that commercial bio fuel production and use is a relatively new concept, all stakeholders – including the Indian government, small farmers, investors, researchers – have an array of possible actions and stances regarding bio fuels. There are

numerous different opinions about what the logical next steps are. The following are a few potential options for India.

Much research is undoubtedly necessary to better understand the capabilities and downfalls of bio fuels. A huge number of questions remain and more are still surfacing. For example, whether TBOS will be economically viable compared to oil, whether indirect and environmental costs of bio fuels will outweigh the direct benefits, or whether impoverished farmers will significantly benefit, all are still unanswered. Some believe that research needs to come before the Indian government invests major sums into bio fuel development policy particularly those policies based around TBOS. Others have indicated that India must work to improve its agricultural practices before it moves forward with the rest of its bio fuel agenda.

There are improvements the government could start making in order to give the bio fuel industry a solid support system from which it can grow. Advances in agriculture through water saving methods, intercropping, seasonal planting, and crop rotation could create more efficiency in the agricultural sector and therefore increase yields. These improvements could create a variety of positive effects downstream in the bio fuel industry and the rest of Indian society.

¹Department of Agro forestry, Forest College and Research Institute, TNAU, Mettupalayam-641 301

Mail: krishna.forest@gmail.com. ²Department of Silviculture and Agro forestry, College of Forestry, Thrissur, Kerala

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		6.	S. Sarvanan	25-06-1973
			7.	Dr.Mohd. Iliyas Rizvi	29-06-1961
1.	P.S.Reddy	06-06-1934	8.	Ashok Kumar Sinha	01-07-1965
2.	Masood Ali Khan	06-06-1941	9.	Sandeep Krupakar Gundala	01-07-1987
3.	G. Rama Krishna Rao	06-06-1957	10.	B.Venkateshwar Rao	08-06-1962
4.	V.Janakiram Naidu	08-06-1936	11.	A.Chandrasekhar	10-06-1965
5.	M.A.Mabood Hazari	09-06-1955	12.	M.Sreenivasa Rao	10-06-1964
6.	V.Devachary	09-06-1946	13.	G.Srinivasulu	10-06-1968
7.	T.Hanmanth Reddy	10-06-1943	14.	Smt. G.Mangamma	10-06-1983
8.	Md.Rahamatullah	13-06-1946	15.	N.Rajendra Kumar	12-06-1969
9.	K.Rameshwar	14-06-1936	16.	V.Satish Kumar	13-06-1968
10.	D.Sudhakar	14-06-1954	17.	G.P.Anand	13-06-1967
11.	M.V.S.Prakash Rao	15-06-1944	18.	S.Madhava Rao	16-06-1968
12.	Dr.N.R.K.Rao	15-06-1943	19.	N.V.Sivaram Prasad	18-06-1966
13.	Qudrath Mohiuddin Ahmed	15-06-1955	20.	M.Janakiram	19-06-1964
14.	P.Ashok Kumar	18-06-1953	21.	M.Raja Ramana Reddy	19-06-1968
15.	B.Malla Reddy	20-06-1937	22.	C.Venugopal Rao	20-06-1960
16.	J.V.Sharma	20-06-1932	23.	M.V.Prasada Rao	20-06-1967
17.	Dr.A. Kishan	20-06-1955	24.	Smt.T.Nagamaneswari	22-06-1974
18.	S.Nauratan Singh	22-06-1942	25.	Joshi Gopal Rao	22-06-1963
19.	P.J. Banarji	24-06-1958	26.	J.Venkateswar Rao	24-06-1967
20.	D.Ramnarayan	25-06-1950	27.	Smt.B.Praveena	25-06-1980
21.	N.Linganna	01-07-1941	28.	K.Mohan	26-06-1964
22.	M.Bullaiah	01-07-1952	29.	Smt.Ch.Balamani	26-06-1974
23.	Sitaram Gupta	01-07-1952	30.	Smt.P.Srilakshimi	27-06-1981
24.	Badusha Saheb	01-07-1953	31.	G.Laxman	28-06-1963
25.	K. Govinda Rao	01-07-1953	32.	T.Narasimhulu	01-07-1959
26.	P. Eshwar Reddy	01-07-1953	33.	K.Khader Basha	03-07-1960
27.	Dr.E.Narasimhulu	01-07-1954	34.	S.Mustafa	01-07-1961
28.	Dr. K. P. Srivasuki	01-07-1956	35.	A.Srinivasa Rao	01-07-1961
29.	P.V.Ramana Reddy	01-07-1957	36.	Y.Sanyasi Naidu	01-07-1962
30.	M.S. Devikar	02-07-1953	37.	G.Dharma Raju	01-07-1963
			38.	P.Sivashankar Reddy	01-07-1963
			39.	P. Samuel	01-07-1964
			40.	K.Somasekaram	01-07-1964
			41.	B.V.A.Krishna Murthy	01-07-1967
			42.	R.Srinivasa Reddy	05-07-1971
			43.	R.Srinivas	01-07-1986
S.No.	Name of Serving Officers	D.O.B.			
1.	Munindra	06-06-1960			
2.	N.Chandra Mohan Reddy	10-06-1961			
3.	Mohan Chandra Pargaen	12-06-1964			
4.	P.V.Chalapathi Rao	19-06-1968			
5.	Dr.C.Suvarna	24-06-1966			

Secretary

NEWS AND NOTES

What makes Chennai a hub of illegal animal trade:

On February 2, customs officials at Chennai International Airport heard unusual squeaks coming from the luggage of a middle-aged man who had just arrived on a flight from Bangkok. When Kaja Moideen's bag was opened, onlookers were stumped to find a tiny leopard cub in a basket.

A month after the seizure made global headlines and led Interpol to contact Indian authorities as part of their investigation into global illegal trade in wildlife another passenger flying in from Bangkok was stopped on suspicion. Among the chocolates and gift items in his luggage was an African horned pit viper, coiled alongside some iguanas and tortoises. The snake, which is listed as near threatened by the International Union for Conservation of Nature (IUCN), caused a major scare as India does not have anti-venom for it.

Apart from the poisonous reptile, what also alarmed authorities was that a 22-year-old student from Chennai had acted as a courier. According to T Uma, deputy director of Wildlife Crime Control Bureau (WCCB), an investigative agency tasked with curbing illegal wildlife trade in India, the smuggling syndicate is increasingly employing young students with the lure of free international tickets, hotel stay and a few extra bucks.

Rajan Chaudhary, commissioner of Chennai customs under whose tenure the number of seizures have shot up in the past two years, said that couriers are willing to smuggle animals, which often include endangered and vulnerable species, for as low as Rs 10,000 per trip. "Chennai

is well connected to Southeast Asian countries by regular flights that offer cheap airfare which makes it an attractive transit point for wildlife traffickers," he added.

Chaudhary said officials from Thailand's Consulate General's office in Chennai had met him last week, admitting that they had taken note of regular attempts being made to smuggle wildlife species from that country to the southern Indian city and assured him that security would be beefed up at airports to prevent such incidents.

The star tortoise, for one, is often illegally traded on these routes. It is found in abundance in scrub jungles across the southern peninsula and a single such tortoise sells for Rs 25,000 in the illegal market. A 2015 study published in peer-reviewed journal Nature Conservation had cited previous research to highlight that Chennai was among the Indian cities from where passengers, acting as couriers, took these animals in direct flights to Thailand.

TOP TRAFFICKED SPECIES

Abrar Ahmed, renowned wildlife expert and former senior programme officer at TRAFFIC (Trade Records Analysis of Flora and Fauna in Commerce-India), said that pangolin, star tortoise and sea horse are among the species most at risk. "The Indian pangolin

(*Manis crassicaudata*) falls under the endangered category in the IUCN Red list of threatened species. It is now one of the most trafficked throughout the world. In 2018, TRAFFIC India had released a study which revealed that at least 5,772 pangolins were captured in India from 2009 to 2017 for illegal

trade. Pangolins are hunted for their meat and their scales are used in traditional oriental medicine in Southeast Asian countries. The Patagonian seahorse (*Hippocampus patagonicus*), one of the three sea horse species which is trafficked for its use in medicine, falls under IUCN's vulnerable category. The Indian star tortoise is now the most trafficked tortoise worldwide as it is in high demand as a pet."

Recent seizures in Chennai seem to suggest presence of a well-entrenched smuggling network in the city. In one of the largest hauls, 660 kg of sea horses, pipe fish, stingray, sea cucumbers, shark fins and pangolin scales were seized in Mannady, north Chennai, in February this year. The consignment was valued at Rs 7 crore in the international market. In October last year, 490 star tortoises seized at Kasimedu fishing harbor in Chennai were meant to be smuggled through Thai Air cargo.

While the customs department in Chennai has been seizing star tortoises, sea cucumbers and pangolin scales being smuggled out of the country for years, officials say that there has also been a rise in exotic species being smuggled in. But where the exotic wildlife being smuggled into India is going is anybody's guess.

Notorious Poacher Raj Bahadur Singh sentenced to 3 years Rigorous Imprisonment:

- This news certainly would put a smile on the faces of Wild Life Lovers, Activists and all those who are involved in the Anti-poaching Operations. In a big judgment, District Court Amethi has awarded 3 years rigorous imprisonment and imposed Rupees 20000 fine on the notorious poacher Raj Bahadur who was caught in 2017 by the STF in Gauriganj area of

the Amethi with the biggest ever haul of poached Turtles in India. Nearly 6400 freshwater Turtles were seized in the single haul. Turtles were stuffed in the bags and weighed over 4 tones.

Raj Bahadur the kingpin of the whole poaching and smuggling operations was using the high tech network involving fisherman and transporters. Luxury Vehicles were used for the transport of the Turtles to avoid any suspicion. These Turtles were scheduled to be smuggled to Bangladesh, China, Myanmar and other south-east Asian countries. Turtle meat is in high demand in these regions and Turtles are also used as medicines as aphrodisiacs.

The STF involved in the recovery was led by then Additional SP, Dr Arvind Chaturvedi along with DSP PK Mishra, Inspector Rajesh Tripathi, Hemant Bhushan Singh, GK Rai, SI Raj Dev Pathak, Head Constable Shivendra, Constables Alok, Ram Singh and Arvind. For their exemplary work, then SSP STF Amit Pathak announced cash reward to boost the morale of the team.

Dr. Arvind Chaturvedi who is currently SP Ghazipur has expressed happiness and satisfaction over the sentencing of the Raj Bahadur Singh. He feels rewarded for the whole effort which involved spending nights in biting cold to nab the fugitive Raj Bahadur.

Recovered Turtles were then kept and nurtured with the utmost care by TSA team led by Arunima Singh and then released in their natural surroundings. These Turtles are found in abundance in the river Ganga and its tributaries. Many of these Turtle species are listed in the endangered category of International Union for Conservation of Nature's (IUCN's) Red List of Threatened Species.

Pashu Sandesh congratulates Dr Arvind Chaturvedi and his team and hopes their bravery and dedication would be an inspiration to the others.

Wild life institute head elected UN Panel member:-

The United Nations__inter Governmental platform on Biodiversity and Ecosystem services unanimously elected Mr. Vinod B Mathur, Director of the Wildlife Institute of India, as its bureau member for a three year term to represent the Asia Pacific region. This is the first time that an Indian scientist has been chosen as a bureau member of the U.N. body

Reunited After 3 Decades, Elephant Instantly Recognizes and Hugs Former Zookeeper:-

An elephant embraced its caretaker during an emotional reunion after decades of separation.

Former zookeeper Peter Adamson was “instantly recognized” by his old friend Kirsty, an Asian elephant, who lived at a Glasgow zoo in the 1970s and 1980s, the Daily Mail reported. Adamson was a keeper at the Calderpark Zoo and looked after Kirsty during the early 1970s, before she moved away in 1987 to Chester in north-west England where she met her female companion Judy for the first time. The duo later moved to Dublin where they lived together from 1994 until 2005 until they were shipped to Germany. Kirsty, born in 1967, has been living in Neunkirchen Zoo in Germany’s Saarland state since 2005. Having lost track of Kristy when she left Scotland, Adamson recently discovered Kristy’s whereabouts in Germany and decided to visit her.

“The two shared a warm hug at their reunion in Germany as Adamson stroked the elephant and

Kirsty curled her trunk around him.”

Adamson said he had always wondered if there was any truth to the phrase “elephants never forget”

”That she allowed me to get close and accepted me was a very emotional experience for me. I will always keep that memory in my heart,” he said.

Zookeepers said the elephant had probably recognised her former caretaker by the sound of his voice. Adamson now plans to visit Kirsty as much as possible. ‘After a colourful life with several moves around European zoos she has found her retirement retreat with us,’ her current zookeepers said.

The zoo’s website describes her as ‘intelligent and willing to learn’ but also ‘dominant over members of her species’. Adamson had found Kirsty’s whereabouts by searching online and made contact with the German zookeepers through friends in the city of Trier, the zoo said.

Built 497 Toilets in Kerala’s Tribal Colonies- let’s appreciate her :

Hailing from Ernakulam district of Kerala, P.G Sudha is a potential beat forest officer by trait There is nothing in this world that can stop women from doing many many good things in life. They are bound to achieve at a very young age and also they are destined to get better and brighter when they become old. Would you possibly believe that a woman brought a drastic change to the state at the age of 50? She proved that age is just a number in today’s world.

To achieve phenomenal things in life, a strong vision with intensity, tenacity and will power is just enough to drive one forward. P.G Sudha is

not just a name but a countless of emotions that are pinned to it. That sums up the essential woman for you! The fact that P.G Sudha set herself as an epitome of sheer class is something that others are really proud of.

What makes her so special? Hailing from Ernakulam district of Kerala, P.G Sudha is a potential beat forest officer by trait. She deserves a certificate of excellence for coming up with an initiative of building as many as 497 toilets in the tribal colonies of the Kuttampuzha forest in a bid to get rid of defecation. She chose this activity as her personal interest because she always wanted to make the environment neat and clean.

With grit and determination, the beat forest officer put in a hoard of efforts to bring a slight change. Much to her constant hard work, there came a fruitful news from Kerala Government as the state was declared open defecation free, making the third state to achieve this feat. The proud and belligerent woman won the Chief Minister's Open Defecation Free campaign award on November 1, 2016.

Cat adopts four orphan squirrels: - We'll hear no more from the 'cats are jerks' anti-feline brigade. Cats are wonderful, evidenced not only by their sweet little paws and their soothing purrs, but by a cat who has kindly adopted four orphaned squirrels out of the goodness of her heart.

Pusha is a cat who lives in a park in Bakhchisaray, Crimea. She came across four young squirrels that'd lost their parents, and rather than going back to her usual cat business or pushing them away like they were pesky mice, she decided to look after them.

Pusha even lets the squirrels drink her milk as if they were her own kittens.

Pusha the cat, who adopted four bereaved baby squirrels and currently feeds and lives with them, lies at a local park of miniatures in Bakhchisaray

The squirrels seem to love their unusual family setup, spending their days in the park cuddling up to their new mum, climbing all over her, and playing in the park.

Photos and video show Pusha lovingly licking her adopted squirrel kids and giving them a gentle nudge when they're misbehaving. She's even patient when the squirrels clamber all over her

Woman Killed By 2 Leopards In Madhya Pradesh, Leopard Dies During Capture: -

A woman was killed by two leopards at a village in Madhya Pradesh, Mandsaur district, following which a group of villagers captured one of the big cats and killed it. In a video shot by a villager, a group of men are seen chasing the leopard on a dry field and among homes as it tries to hide.

The villagers said the two leopards probably waited for the woman to pass and when she came in their view, the big cats ambushed her. Three people were injured in the effort to catch the leopard. They have been admitted to a hospital. Along with forest department officials, the villagers armed with sticks ran after the two leopards, one of which managed to hide, and pinned the second animal to the ground. The leopard died of injuries.

In the video, men after men jump on the animal to restrain its limbs from getting free.

The villagers say they are living in fear of the other leopard that has not been captured yet.

FOR A HOPEFUL FUTURE

By
Mohan Konda

Hey man! Awake and Arise!!
Open your eyes, See wider
Listen Louder! Louder!! Louder!
Death Bells are ringing!
Immortal world is Collapsing!!

Mother Earth is burning!
Future of Mankind is trembling!
Nature's Cry is alarming alarming
Alarming the fate of future generations!!
Listen carefully Death Bells are ringing . . .

Trees are cut down "left and right"
In the name of the Urbanization!
Forests are depleted overnight
For the sake of Civilization!!
See Stared eyes . . . Immortal world is collapsing . . .

Greedy and Selfish Brutal man
Bored the resources unscientifically
Dumping the pollutants on the Mother Earth
Uprooting the mother tree where he is residing!!
Listen carefully Death Bells are ringing . . .

Still it is "not too late to recover"
Make to flourish the Nature with Greener!
Take the Mother Earth to its original vigor
By banning the plastics and conserving the water!!
Gifting the generations with hopeful Future . . .

LEGAL NOTES

State of Maharashtra vs Wasudeo Ramchandra Kaidalwar

This is a case in which Range Forest Officer W.R. Kaidalwar was charged by the ACB of Maharashtra State for an offence under the Prevention of Corruption Act. The charge was for possessing disproportionate assets. He was in receipt of a monthly salary of Rs. 515. In a search conducted by an officer of the ACB on 21.09.1969, the following assets were found in his residence:

1. Rs. 26,870 cash in an almarah;
2. Savings Bank Accounts in the name of himself, his wife and children totaling to Rs. 12,590;
3. NSC Savings Certificates worth Rs. 510;
4. Postal Savings Certificates worth Rs.184 in the name of daughter;
5. Saving Bank Deposits with the SBI and Postal Savings Certificates in the name of his brother-in-law amounting to Rs. 2,279;
6. Gold and Silver ornaments, house hold effects valued Rs. 8,602;
7. Two sale deeds in respect of two plots in Chandrapur purchased, one in the name of his wife and another in the names of his wife and brother-in-law for an amount of Rs. 21,210;
8. Papers relating to building of a house in his village at a cost of Rs. 10,000; all aggregating to about Rs. 70,000.

The RFO was prosecuted before the Special Judge, Chandrapur and it was alleged that he was in possession of assets disproportionate to his known sources of income.

The accused Range Officer denied commission

of the offence and pleaded that he led a frugal life and that much of the property found in his house belongs to his father-in-law. He added that his father-in-law was a pairokar working under the Zamindar of Aheri Estate and his two sisters were kept as mistresses by the Zamindar, who gave large amounts of cash to them, most of which was passed on to his father-in-law. At the time of his death on 10.03.1958, his father-in-law entrusted his minor daughter and son to his care and instructed that his property should be divided among the three children equally and that he was therefore holding the property as a custodian.

Rejecting the plea of the Range Officer and the evidence adduced on his behalf, the trial court Judge convicted him on 07.06.1971 and sentenced him to two years rigorous imprisonment and fine of Rs. 26,870.

On appeal to the High Court of Bombay in Crl.A.No134 of 1971, against the judgment of the trial court, it was held that the prosecution had failed to discharge the burden of disproving all possible sources of the appellant's income, that it was not possible to exclude the probability that the property found could be property of his father-in-law and that mere possession of assets disproportionate to his known sources of income would not be sufficient to bring home the guilt of the accused. The appeal was

allowed and the Range Officer was acquitted of the charge on 09.04.1975.

Aggrieved by the judgment of the High Court acquitting the officer, the State of Maharashtra approached the Supreme Court and filed Crl. A. No. 277 of 1976 by Special Leave Petition. The appeal was heard by a Bench comprising Justices Sri A.P. Sen, Sri O. Chinnappa Reddy and Sri Baharul Islam. The arguments were advanced by the respective counsel on behalf of the Appellant (State of Maharashtra) and Respondent (W.R. Kaidalwar) Their Lordships examined in detail the judgment of the Special Judge at Chandrapur and critically reviewed all the points of the judgment in the light of the amendments made to the Anti-Corruption Laws. It was held that the expression "known sources of income", means "sources known to the prosecution". The onus placed on the accused was not to prove his innocence beyond reasonable doubt but only to establish a preponderance of probability. On the proved circumstances there was preponderance of probability that the property found in the Respondent's house could be the property left

by his father-in-law. There was overwhelming evidence on record that the Respondent's father-in-law was a man of affluent circumstances being a pairokar of a Zamindar and that he had amassed considerable wealth, more so because of his two sisters were kept as Zamindar's mistresses. On the death of the Zamindar, his father-in-law stayed with the Respondent. Also, Respondent's father had a liquor shop and forest contracts. The evidence in the case was sufficient to create a doubt whether the Respondent was in possession of assets disproportionate to his known sources of income. On the other hand, there is preponderance of probability that the property in his possession belonged not to him, but to his father-in-law. The court also took cognizance of the evidence of respondent before the trial court and gave credence to the evidence of 12 respectable witnesses examined during the trial of the case. The result therefore is that the appeal failed and is accordingly dismissed on 06.05.1981. The judgment is delivered by The Hon'ble Justice Sri A.P. Sen.

A.I.R. 1981 S.C. 1186

K.B.R

Be habitual to live in a green and clean environment.



OBITUARY

A.H. MOOSVI

05.12.1936 – 04.05.2019

We are deeply grieved at the sad demise of Sri A.H. Moosvi, a former PCCF of Undivided Andhra Pradesh. Sri Moosvi

passed away on May 4, 2019 at 9.30 p.m. at his residence, in Manikonda, Hyderabad. He was 82. He was suffering from Parkinsonism and other age related ailments for a long time.

Alamdar Hussain Moosvi, popularly known as A.H. Moosvi in official circles, was born on December 5, 1936 in a noble family of Hyderabad and he was the third son of his parents Sri Abbas Ali Moosvi and Smt. Noor Jahan Begum. He had all his education in Hyderabad and passed his B.Sc. (Ag) from the Agriculture College at Coimbatore. He joined State Forest Service on November 1, 1959 and was promoted to Indian Forest Service in 1966. Sri Moosvi attended a short term course in 'timber engineering and timber technology' at the Forest Research Institute, Dehra Dun. As D.F.O, he worked in Kamareddy and Hyderabad territorial divisions. He was the first Forester to have taken up eucalyptus plantation after uprooting and ploughing with earthmover in hardened soil at Mulug near Gajwel in siddipet Range.

He established a sawmill at Donkarai under Lower Sileru Project around the year 1967 and after about two years he moved to Rajahmundry Saw Mill division, where he had a challenging task of popularizing non-teak timber after ASCU treatment for furniture, doors and windows etc. The scheme was successful to a large extent. He went on deputation to a Government sponsored furniture making mill at Sanathnagar.

Sri Moosvi was promoted to super time scale on September 19, 1981. He worked as Conservator of Forests, Social Forestry at Hyderabad. He went on deputation to the APFDC and worked in that organization as Regional Manager at Khammam and as General Manager at Hyderabad. His expertise was used for some time by the Novo

Pan Industry at Patancheru. He served for a term as a member of the Forest Advisory Committee under the MoEF. He was promoted as PCCF and worked in that capacity from January 30, 1994 to Dec.31, 1994.

A few months after the commencement of the Wildlife Protection Act, Sri Moosvi as the DFO, Hyderabad, detected a case of poaching a tiger and a peacock in the forests of Mannanur in Mahbunagar district. The accused belonged to an affluent family of Hyderabad city; detection of the offence had created sensation in the twin cities. Tremendous pressure was brought on Sri Moosvi to close the case, but he remained steadfast in his determination to bring the culprits to justice. And the case was successfully prosecuted in a City Court at Hyderabad. He was responsible for pushing through the proposals of declaring Kasu Brahmananda Reddy National Park, Mahavir Vanasthali National Park and Chilkur National Park.

Sri Moosvi was married to Smt. Sayeeda, daughter of Dr. Hussain Ali Razvi, Principal & Dean of Agriculture College, Osmania University. The couple has two sons and a daughter. All of them are educated and well settled.

Sri Moosvi was a source of inspiration and a tower of strength to his staff. He stood tall among his peers and that was not because of his height alone. He was known as a fun person with sharp wit and sense of humour; a giant and a leading luminary among the forest fraternity. Those families, who received his generous help in getting medical attention because of his friendly relations with doctors, will always remember him with gratitude. He will be fondly remembered by his wife, sons, daughter and grand children. A large number of friends and colleagues will cherish with reverence their association with the late Moosvi.

MAY GOD REST HIS NOBLE SOUL TO PEACE!

K. B. R. (keesarabuchiram@gmail.com)



TELANGANA STATE FOREST DEVELOPMENT CORPORATION LTD.

- A fully owned, financially well managed State Government Company. Raising massive plantations to cater to the needs of the wood based industries.
- Watershed approach adopted for raising plantations, to make them ecologically sustainable, socially acceptable and commercially viable, with the long term goal to improve the site quality of plantation areas.
- Large grower of about 25,166.11 Ha of Eucalyptus clonal plantations. Bamboo also grown as an important crop over 8,065.94 Ha.



- 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

Vice Chairman & Managing Director

T.S. Forest Development Corporation Ltd.,

3rd Floor, UNI Building, A.C. Guards, Hyderabad - 500004.

Telephone Nos. 040-23395750/23392652 Fax: 040-23326420

Email: vcmd.tsfdcl@gmail.com, www.tsfdc.telangana.gov.in

Govt. of Andhra Pradesh

Forest Department



**As the Human being protect the forests
& balance the Ecological Biodiversity**

**Divisional Forest Officer
Narsipatnam Division**

BOOK POST

Registered with RNI R.No. Apeng/2000/2185
Postal Regn. No.HD/1154/2018-20

To _____

**If Undelivered, Please return to : Editor : VANA PREMI, Office of the Principal Chief
Conservator of Forests, Aranya Bhavan, 5th Floor, Room No. 514, Saifabad, Hyd - 500 004, T.S.**

Date of Publication: 26-05-2019 Total pages : 56 Date of Dispatch : 4th or 5th of every month