

VANA PREMI

Nau Say Navvay Sall Tak Ke Bachon Ka Sathi

Life Time Subscription - Rs. 5000/-

Yearly Subscription - Rs. 300/-

Single Copy Rs. 30/-

Vol .18

JULY -2017

No.07

**THIS ISSUE IS DEDICATED TO SRI H. R SHETTY, (IFS, Retd.)
WHO WAS INSTRUCTOR AT SFRC FROM 1963 TO 1973**

Special issue on Vana Mahotsava



**Save the trees, save the earth.
We are the guardians of nature's birth**



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 20,100 Ha of Eucalyptus clonal plantations. Bamboo also grown as an important crop over 8100 Ha.



- The TSFDC is harvesting about 1,50,000 Lakh MTs of pulpwood every year. Besides this, it also produces about 15 Lakh Long Bamboo and 1500 MTs Bamboo industrial cuts for use as pulpwood.
- The TSFDC has also taken up the challenging task of Eco-Tourism development in the State. Already open to public – Hyderabad Botanical Garden near Hi-Tech City, Madhapur, Mahavir Nischal Van Eco-Tourism Centre, Vanasthalipuram and Shameerpur Deer Park, attracting increasing number of visitors.

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

Editor : Qamar Mohd. Khan

Associate Editor : V.V. Hari Prasad

Contents**The Association of Retired Forest Officers, Telangana & Andhra Pradesh**

(Regd. No. 557/1990)

President	: Sri.S.K.Das, I.F.S. (Retd.) Cell : 9550681964, 23115085
Vice President	: Sri. T. Narayana Swamy, I.F.S. (Retd.) Cell : 9701336446
Secretary	: B.M Swami Dass Dy C.F. Retd Cell : 9000817781
Jt. Secr. Cum	: Sri.A.V. Govindarajulu, (Retd.)
Treasurer	Cell. 9440764611

Executive Committee Members

1. Sri C. Muralidhar Rao, I.F.S. (Retd.)	9848390004
2. Sri K. Santokh Singh, I.F.S. (Retd.)	9848808101
3. Sri P. Upender Reddy,	9848754778
4. Sri V.V. Rajam,	9348322236
5. Sri G. Raman Goud,	9391499119

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	: Sri V.V. Hari Prasad 7893673767
4. Member	: Sri. J. V. Sharma, IFS (Retd.) e-mail : jvsharma32@gmail.com 9441319151
5. Convenor	: Ex-officio Secy. of Assn

Auditor : Sardar Iqbal Singh**TARIFF RATES FOR ADVERTISEMENTS**

Back side of front and last cover page	
(Colour) for one year	Rs. 20,000/-
Outer Cover half (Colour) for one year	Rs. 15,000/-
Inner Center Spread (Colour) for one year	Rs. 20,000/-
Inner full page (B&W) for one year	Rs. 15,000/-
Inner half page (B&W) for one year	Rs. 10,000/-
Inner full page One Time (B&W)	Rs. 2000/-
Inner half page One Time (B&W)	Rs. 1500/-

1. Editorial	Q.M.K	4
2. Letters to Editor		8
3. Musings on Vana Mahotsava : Has It Become a Caricature "Ritual"?	Dr. B. Raghotham Rao Desai	9
4. Andhra Pradesh Community....	..Ramesh Kalaghatgi & S.K. Das	11
5. Festival Of Trees	J.V. Sharma	20
6. Panchavati Forest Park	... K.B.R Reddy	25
7. Happy Birthday to Sri K. Buchiram Reddy... Nagabhushanam Dasari		33
8. Save the Mother Earth	V. Santhaseela Babu	34
9. Experiment with Aerial Seeding	.. M. Padmanabha Reddy	43
10. Birthday Greetings... Secretary		45
11. Homage To Sri H. Rajagopal Shetty, I.F.S (Retd.) - A Legend and A Torch Bearer.. V. Santhaseela Babu		46
11. Blossoming of Sevaksangh, Maharashtra.. V.S. Joshi		51
12. Our Beloved Grandfather	.. Sri. P.V. Krishnamurthy's Grandchildren	55
13. Legal Notes	K.B.R.	57
14. Obituary	V.S.S.B	58

Date of Publication: 26-06-2017

Total pages 60

EDITORIAL

I have returned From Australia on 4th of June and resumed the editorial work of our Vana Premi. I profusely thank Sri K.B.R Reddy who was in charge Editor. I also thank Sri V.V. Hari Prasad Associate Editor and all others for rendering their help during my absence.

Vana Mahotsava: -India has 2.5% of the world's geographic area and 79.42 million ha. of forest area. The country supports 17% of the planet's human population and 30.39% of cattle population of the world. The country's forest cover presently is 24.16 percent. As per Forest policy of 1952, India as a whole should aim at maintaining one-third of its total geographical area under forests. Indian forests are under severe pressure since last five decades which is increasing year after year. The main reason for this is increase in human and cattle population and growing demands for fuel, fodder, grazing, timber non-wood forest products, illiteracy and poverty, together with lack of involvement of stakeholders in protection and management of forests

Van Mahotsava was named and started during the year 1950 by Kanhayyalal Maniklal Munshi the then Union Minister for Food and Agriculture Government of India. The history of the Van Mahotsava plantation drive, which is purely an Indian festival, for Nature goes back to the time of independence of our nation. The first such

festival took place even before its formal announcement in 1950 by Sri K.M. Munshi and a plantation drive was undertaken in Delhi in July 1947, in which national leaders like Dr. Rajendra Prasad and Jawaharlal Nehru participated. Sri K. M. Munshi was having foresight and he foresaw that India will not be having sufficient area under Forests to maintain its environment. Hence Vana Mahotsava was launched. Since then, millions of saplings of diverse species have been planted with energetic participation of local people and various agencies like the forest department. It is now a week-long festival, celebrated, from 1st July to 7th July. Monsoon sets in almost throughout the country by 1st week of July and this is the reason for selecting first week of July for celebration of this festival. The name Vana Mahotsava means "the festival of forest." This was started to create enthusiasm among masses for forest conservation, planting of trees, and to stop deforestation to save mother earth by the depleting number of trees. It is expected that every citizen of India will plant at least a sapling during the Vana Mahotsava week.

Trees have long served humanity in one form or the other. On the other hand humans have only threatened their very existence. Now it is our turn to reverse the damage that we have

caused and restore the balance between nature and man. The first step towards this change is to plant trees and protect them. The planting of trees during the festival serves various purposes like providing alternative fuel, increase production of food resources, helps create shelter-belts around fields to increase productivity, provide food for cattle, offers shade and, helps conserve soil deterioration and stabilize the coastline, reducing erosion from storm etc. with the help of Mangrove forests.

After independence India saw serious urbanization and globalization of cities, trees were considered as the major stumbling block. They came in the way of house construction, extension of agriculture, Industries, construction of dams, electric lines, railway lines, flyovers, roads, and the easiest solution was to get rid of them by cutting. This declining number of trees has brought a major change in climate too. So there is a dire necessity of festivals like Van Mahotsava, to restore the forest cover in the country. India has long been vulnerable to floods, droughts, heat waves, cyclones and other 'natural' disasters and this trend is increasing with each day. An immediate example that comes to our mind is the colossal event we recently witnessed in Uttarakhand, in June 2013, which claimed the lives of thousands of tourists and locals and has left many stranded. Indeed there have been people who saved themselves from

the gushing flow of the river by holding on to a branch or climbing a nearby tree. The second example is 2004 tsunami which occurred on 26 December. It was one of the deadliest natural disasters in recorded history. These calamities are occurring due to cutting of forests. The calamity in Uttarakhand serves as a harsh reminder for us to reassess the role of trees in natural disaster prevention and mitigation. To further highlight the importance of trees, let's take the example of dense mangroves forests growing along the coastal areas of the country which helped in reducing the devastating effect of the 2004 tsunami. The mangroves absorbed the oncoming waves and protected a large many human habitation. Mangrove forests grow where the ocean meets the land and act as a barrier against storm and coastal erosion. Mangroves, the oldest and the most productive wetlands on Earth, not only serve as a silent protector of our coastline, in fact their role extends far beyond. The Eastern coast of India host the largest mangrove ecosystem of the world: Sundarbans, a world heritage site and a biological reserve. Despite their ecological and economic importance, this ecosystem is under great pressure. The mangroves are being destroyed at an alarming rate. This is mostly due to deforestation, degradation and conversion to other land uses like intensive shrimp farming. If the mangroves disappear, much of the global

primary productivity will be lost. Mangroves of western coast are also being destroyed we have to protect mangrove forests at any cost. With continuous human intervention against Nature, these disasters can no longer be considered 'Natural'. Consequently, loss of trees will certainly result in human insecurity leading to global warming, acute vulnerability to natural hazards and a polluted & unhealthy Planet.

Trees play an important role in the achievement of human security. Whether it is through the provision of livelihood resources e.g. construction materials, medicine, fuel for cooking, food etc. or ecosystem services such as water and air purification, climate regulation and erosion control, trees undeniably provide security to humans and are a means for sustaining life. The very existence of man would not have been possible without trees and the result is drought, floods, heat waves, cyclones and other natural disasters are increasing. Everyone is aware of severe drought and floods situations in different parts of our country. With the onset of monsoon in the month of June 2017 heavy rainfall triggered by flash floods and landslides has caused massive damage to life and property in Mizoram. Power supply lines have snapped and telecommunication network remained disrupted in the state capital due to landslides and heavy downpour. Many were left homeless and numbers of missing peoples are likely to

increase in coming days. All these calamities are due to imbalance in nature caused by cutting of trees and greenhouse effect, and increasing carbon level in the environment.

Apart from World Environment Day which is celebrated on 5th June every year where whole world participates in planting trees and taking measures to save planet, Van Mahotsava is the another big event from 1st July to 7th July, where such measures to save planet are undertaken in our country. The 'Van Mahotsava' festival of forest is a beautiful initiative to save the environment, to which we owe a lot. Everyone is encouraged to plant trees in homes, schools, colleges, near offices, contribute in making our cities greener than ever before

Not only does the Indian Army protect the nation in its hours of greatest needs, but is also helping rebuild a greener India. Realizing the gravity of the present deforestation problem, even the Indian Army has taken up the plantation drive and is aiming at planting lakhs of seedlings. In a move to restore the ecosystem, the Army has started an initiative to plant saplings in Mumbai. During 2016 Vana Mahotsava celebrations the men of Indian Army have planted about seven lakh saplings in Mumbai. This will continue in the years to come, and throughout the country. A similar initiative was taken last year, by the Ecological Task Force of the Indian Army and the forest department

of Uttarakhand and planted more than one lakh saplings on World Environment Day. Vana Premi salutes the Indian Army for its very good work. Encouraged by the example of Indian Army I am sure every citizen of India will plant at least one seedling during every Vana Mahotsava.

Amrita Devi Bishnoi said "If a tree is saved even at the cost of one's head, it's worth it.", as she hugged the trees to stop them from being felled. An American poet, author and teacher Lucy Larcom said "*he who plants a tree – plants hope*" and Henry Jackson van Dyke, who was also an American, author, educator, and clergyman said. "*He that planteth a tree is a servant of God*". In the words of John Milton, "*Accuse not nature, it hath done her part, do thou but thine*" means that

nature has indeed played a positive role in creating what ever was needed. It is now for us to play our role to protect it from further deterioration.

The first week of July gives us the opportunity to fulfill our duty towards environment and towards trees, on which all of us and our coming generation depends.

Vana Premi wishes let all of us welcome monsoons, by each person planting a sapling during Van Mahotsava with full vigor and enthusiasm by ensuring their protection and nurturing the ones that are already planted to bringing back our lost forests and ultimately our Environment. **QMK**

MOTHER NATURE

Hear Mother Nature's cry
as she watches her animals die.

Hear Mother Nature's call
as one by one her trees fall.

Hear Mother Nature shout
while there's pollution all about.

Hear Mother Nature weep
as the damage we're doing runs deep.

Hear Mother Nature's cry
as she is left asking why.

LETTERS TO THE EDITOR

Sir,

Welcome back to Editor's table after a sojourn in Australia.

I refer to the Editorial by Shri. KBR in June issue .He has given details of how a monthly magazine is launched and sustained through 17 years. I wish KBR was in Maharashtra. We published three monthly magazines, first by Forest Development Corporation Of Maharashtra(FDCM) called *Van Vikas* .Then FD launched its own magazine ,called *Van Vrutta*, and finally our association of retired forest personnel launched *Sevak*, "*Nisargvani* ". All died prematurely.

The main reason was that not many retired persons had interest in these efforts. Only a few contributed articles. Serving forest officers refused to even touch the idea of such effort. And Govt. had nothing to do with them. *Nisarg Vani* came into financial doldrums after the management decided to join JVS in AP to fight against FR Act. Couple of members gave some amounts but major chunk was given from Magazines savings. SEVAK, our association Magazine went bankrupt and ceased to exist. Hats off to KBR, JVS and your good self as well as AP FD and all .I eagerly await the magazine every month.

May be because, I have my roots in Hyderabad. I owned property bequeathed to me by my father in Sultan Bazaar. I had my early education in Davare School and Vivek Vardhini High School. I was shifted to Ahmednagar when *Razakar* trouble started. Moreover Late Pratap Bahadur was my batch mate in IFC and we worked together in Pre Investment Survey of Forest Resources, G.O.I. We both went to Bhutan as members of MEA team to assess forest Resources of that country. Then after retirement we worked with Japanese Overseas Forestry Consultants Association, for their projects in India. I was coordinator for India.

Incidentally KBR and JVS are batch mates of Pratap Bahadur in SFRC.

I wish JV Sharma many happy returns of the Day on his Birth Day on 20th June. Regards to KBR Forestry is a very interesting service and every day gives some new insight, if your eyes are open and mind alert to note.

All the best Carry on your good work.

Regards

Dr. A.R.MASLEKAR (9422320548)

"We can have technology, prosperity, nice homes, but at the same time we must be conscious of what we are dumping, into the water, the air and our food." (Kevin Richardson)

MUSINGS ON VANA MAHOTSAVA: HAS IT BECOME A CARICATURE “RITUAL”?

By

Dr. B Raghotham Rao Desai

Inaugurating the World Environment Day Celebrations recently (jointly organized by the KFD and KSPCB) the Chief Minister made a “self - goal of sorts”, by ridiculing the government’s afforestation claim, shocking the Minister for Forests & Environment and also the Chairman, Karnataka Pollution Control Board. Indeed the forest-cover has not increased over the years, though the statistics say that millions of seedlings were being planted year after year not only in Karnataka but in each state, ever since the Nation had commenced observing Vana Mahotsava from the season from the year India became a Republic, have only the Governments to be blamed for this state of affairs? It is not just the governments’ obligation to keep the environment clean — people should also take responsibility and follow norms. I personally feel that **God should have given the plants the powers to lift each of their sturdiest branches and hit every nature-offender!**

We say, this planet is our ‘home’ but in fact we are rendering it ‘homeless’: the very elements that nurture it — air, water, soil are play-dough a thick malleable mixture, in our monstrous hands, to which we add our ‘resourcefulness to create weapons for mass-destruction’! One in

eight of the ingredients used in personal-care-products are industrial-chemicals, including pesticides and hormone disruptors!! Humans appear to be capable of inventing stuffs that are well-intended, but are so harmful: **a Genetically Modified Organism (GMO) is a plant, and an animal or other organism whose genetic make-up has been modified, making immune to antibiotics & increasing - toxicity in the bodies.** We are happily sinking our greedy teeth into hormone - pumped fruits, dousing ourselves with toxic deodorants, shoving pollutants in the air, and patting ourselves, instead of mourning! Far ahead we seem to have gone, and had even reached the precipice——what a shame that we are not walking-back, obviously since we are so short-sighted.

We should have been in fact wrapping the planet in shrink-wrap and preserving it for the future: instead, we are kneading toxins in it, also microwaving it, while even slathering it with all kinds of insecticides and germicides — the frothy lakes in Bangalore, and elsewhere, are filled to the brim with pollutants, looking as if ‘they are covered with snow’! Undoubtedly we are all naturalists

and nature-lovers at heart, but in the mad rush that is our life, we have forgotten to stop and assess how the natural resources are getting destroyed around us. Perhaps the KSPCB has also to take much of the blame, as it has obviously not taken effective measures to prevent contamination and defiling of the water-bodies, the atmosphere, the fertile surface-soil and even the groundwater, from harmful and toxic substances. The Chief Minister appears to have been very much disappointed to express so and make that sweeping & damaging statement due to the miserable failures found all around, which the media has only highlighted.

Changes in the seasons brought in festivities which signified the importance of nature, to draw inspiration from the surroundings.

Water retained after washing pulses and rice, etc., used to be utilized to water the plants; several species of birds used to know where their breakfast has been kept each morning! What have we done of late, instead? Our collective greed led us to forget how the cultures and

festivals were meant to foster our connect with nature: we have lost sight of the essence of the traditions and rather engaged ourselves with 'rituals'!

We have abused our forests, cut the trees and killed the fauna indiscriminately, polluted the water-bodies at no end, offering no nurturing-care in return for what we receive and disturb the delicate ecosystem. In the name of development, we build structures upon structures, and choke our townships for air, while rains flood 'homes so built', encroaching the stream/tank-beds. **By making inroads into the forests, we have destroyed the safe havens of the denizens, making it impossible for them to thrive while making them incapable of living on their own, in the wild.**

Isn't it time for us to pause and ponder how the traditions have metamorphosed into mere rituals and find ways & means to reverse the trend, as we observe Vana Mahotsava during the current year at least?

“Chimpanzees, gorillas, Orangutans have been living for hundreds of thousands of years in their forests, living fantastic lives, never overpopulating, never destroying the forest. I would say that they have been in a way more successful than us as far as being in harmony with the environment.”(Jane Goodall)

ANDHRA PRADESH COMMUNITY FOREST MANAGEMENT PROJECT – AN INNOVATIVE AND SUCCESSFUL INITIATIVE TO IMPROVE THE DEGRADED FORESTS BY INVOLVING AND EMPOWERING THE LOCAL COMMUNITY

By

***Ramesh Kalaghatgi & ** S. K. Das**

1. Background: The Andhra Pradesh Community Forest Management Project (APCFMP) was launched on 1.11.2002 and became effective from 26.11.2002. Development Objective of this project was "Alleviation of rural poverty through improved forest management and community participation". It was supported by a credit of XDR 85.50 Million from the International Development Agency (IDA) and was implemented by the Forest Department of the Government of Andhra Pradesh (GOAP), India.

At the time of its launch, the project had 3 interdependent components viz., Creation and Enabling Environment for Community Forest Management, Forest Management and Community Development. By the Mid Term Review undertaken during 2006, the Project was restructured with greater emphasis on ensuring livelihood security to the forest dependent communities in the Project area and was reorganized into 4 components viz., Livelihood promotion, Forest management, Institutional strengthening and Project management support.

Unlike many other projects in forestry sector, this project sought to bring in a new purpose to forestry through linking forest management and poverty alleviation of the forest depended

families. After its launch revenue from forests managed by VSSs has virtually doubled (growth of 97.60%) between 2002 and 2007. There has been an impressive 31.50% growth in revenue for VSSs between 2006 and 2007 indicating that Project's initiatives and investments are yielding results in the desired direction.

APCFMP is a follow on Project to the previously implemented Andhra Pradesh Forestry Project (APFP) which focused on Joint Forest Management (JFM). Emphasis of APFP was more on rejuvenation of degraded forests, forming JFM committees and all that was associated with initiating the process of participatory forest management and improving the productivity of the resource base. These activities continued in the initial phase of APCFM Project also. During the first two years, emphasis was on afforestation and rejuvenation of degraded forests under management of *Vana Samrakshana Samithies* (VSSs). During the mid-term review, by which time most of the physical targets for rejuvenation of forests and afforestation were achieved, the Project was reoriented to ensure livelihood enhancement. Focus was then shifted towards management of rejuvenated forests and mature plantations by way of harvesting, thinning etc., developing

methodologies for enabling communities to reinvest revenue surpluses in forest management to ensure sustainable forest management, value addition, development and management of enterprises with adequate market support to enhance income generation opportunities, institutional reforms to address issues of equity and enterprise management etc.,

The Project was initially slated to close by 31.3.2008. However, as a number of new initiatives were taken up especially after the Mid Term Review there was need for a little more time for effective implementation. On the request by Government of Andhra Pradesh (GOAP) and Government of India (GOI), the World Bank extended the Project closure date upto 31.3.2009.

2. Achievements: Given below is a brief account of some of the key achievements of this Project:

Issue of comprehensive policy on CFM: The Government of Andhra Pradesh through G O Ms. No. 13 EFS&T (For III) Department, dated 12.02.2002 as amended vide G.O. Ms.4 EFS&T (For III) Department, dated 12-01-2004 have issued comprehensive policy for implementing Community Forest Management in the state as an advancement over Joint Forest Management duly addressing issues relating to gender, inclusion of vulnerable groups, transparency in transactions, duties and responsibilities, usufruct sharing, administrative decentralization and sustainability.

Benefit sharing policy: Benefit sharing policy issued by the GOAP was by far the most

community friendly among all the Indian States. The state conferred 100% usufruct rights to the community from all non wood forest products, timber and bamboo obtained from the natural forests managed by the VSSs (irrespective of period of management) and usufruct of timber and bamboo in proportion to the period of management by the VSSs in case of plantations. What was critical here is that the rights conferred by the GOAP in this regard are in the form of usufruct rights and as such the Communities can market what they harvest after meeting their domestic requirement.

Linking forest conservation to enhanced livelihood opportunities: Focus so far in any Forestry Project was on creation and management of forest resources through rejuvenation of degraded forests, artificial regeneration, soil and moisture conservation activities, fire control etc. No Forestry Project generally deals with linking forest management with livelihoods of the people living in its vicinity and depending on it. People living in the vicinity of forests have invariably been regarded as work force for forestry regeneration, harvesting, management etc. In this context, the APCFMP made a distinct difference in that it initiated the process of institutionalizing forest management for livelihood enhancement.

Community Based Ecotourism started initially during 2006 at 8 places viz., Talakona and Mamandur in Chittoor District, Kambalakonda in Visakhapatnam District, Tatipudi in Vizianagaram District, Coringa and Maredumilli,

in East Godavari District, Pochera and Kuntala in Adilabad District is progressing very well. This activity was extended to five (5) more centres at Mannanur in Mahabubnagar District, Rameshwaram and Indiramma Rani Tope in Kadapa District, Rampa in East Godavari District and Penchala Kona in Nellore District. Members of community are trained in hospitality management and various nuances of tourism and ecofriendly infrastructure is provided in each of these centers.

A study conducted by the "Development Research Studies" during 2005-06 has revealed that this project has contributed to increase in income levels of target group between 2002 and 2005.

Following statistics are self-explanatory:

TABLE - I

Income Group (Annual income)	Base line (% of households during 2002)	tatus during 2005 (%ofhouseholds during2005)
Up to Rs.10,000	52.69	11.12
Rs. 10,000 to Rs. 20,000	44.65	39.30
Rs. 20,000 to Rs. 30,000	0.75	30.72
Rs. 30,000 to Rs. 40,000	1.38	10.28
Rs. 40,000 to Rs. 50,000	0.38	5.19
More than Rs. 50,000	0.15	3.39

With better forest management protocols being established, revenue flow from VSS forests is on the increase. Pattern of revenue flow from Timber (including small timber and Pulp wood) Bamboo and other NTFP is detailed below:

(Rupees in lakhs)

TABLE - II

2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
1043.56	1420.82	1522.69	1715.14	1570.07	2062.15

It may be seen that between 2002-03 (commencement of APCFM Project) and 2007-08, revenue flow from VSS forests has grown by 97.60%. It may also be seen that annual revenue realization was fairly stable between 2003-04 and 2006-07 during which period focus was mostly on rejuvenation of forests and afforestation and revenue realized was mostly from silvicultural operations. During 2007-08, revenue has recorded a growth of 31.50% over revenue of 2006-07. This trend indicates the likely result of orienting the Project initiatives towards livelihood enhancement strategies. 68.76% (Rs 1417.992 lakh) of the revenue of 2007-08 is from sale of pulp wood and small timber from harvest of plantations of Eucalyptus and Casuarina that were raised during APFP and that have matured now (attained silvicultural rotation).

Gender issues being addressed: The constitution of VSS mandates that 8 out of 15 members of managing committee are women and at least one of either Chairperson or Vice chairperson was a woman. While forests play a significant role in the lives of women through utilities as water source and source of domestic energy (fuelwood), by and large we are dealing with a male dominated society and many forest management operations and forest protection tasks are traditionally male oriented. It is heartening to note that in 436 VSSs Women have been functioning as Chairpersons (in others as Vice chairpersons) and in 149 VSSs both the Chairpersons and Vice Chairpersons were women. Even in the profile of employment generation under the Project, women had a share of 45.5% Thus gender issues were slowly getting addressed.

Self-sufficiency in financial management and book keeping: Success of Community Forest Management depends significantly on the ability and willingness of VSSs to decide and implement their decisions especially in financial matters. One of the indicators of success in this regard is self-sufficiency of the VSSs with regard to keeping their own books of accounts. Unlike many other initiatives, which provide external support in financial management, this Project created enhanced ability within VSS institution in book keeping. With this in view, 3 educated youth in each VSS were selected and trained adequately in book keeping and financial management. During January 2004, the Government amended the AP

Forest Department Code with reference to financial powers and financial management. Through this amendment, the Government recognized VSS as an institution in implementation of works and in handling and managing financial allocations.

Employment generation and impact on migration:

Forestry has always been a heavy source of employment generation especially in the rural sector. In fact nearly 75% of the contribution to livelihoods from forestry is from employment generation potential of forestry operations. Bulk of the area of Andhra Pradesh state, due to historical and geographical reasons is in rain shadow region. This being the case the state has suffered from drought repeatedly in the last decade. This on one hand and the fact that majority of the members of VSSs are poor and landless, makes them highly vulnerable and compels them to migrate for want of adequate livelihood opportunities. Migration is one of the most severe cruelties that nature imposes on such target group especially when there is drought. While migration disrupts and nearly destroys families, it also adversely affects these vulnerable groups in that none of the welfare measures taken by the Governments reach them as they are not physically available to receive them. Considering these situations by creating around 1 Crore mandays employment annually, more so in lean months, this Project has provided an opportunity to all poor members of VSSs to stay back in their respective villages and access employment opportunities available through VSS works and other benefits

provided by the Government. **This was a very important and humane fall out of Project implementation.**

Improvement of degraded forests: Forest management is an important component of the Project. This component and its activities were the back bone of the Project while all the activities of other components were associated with this component and its activities in one way or the other. Achievements in this regard include rejuvenation of degraded forests of the VSSs through a series of treatment practices coupled with artificial regeneration of high yielding and high value species like Eucalyptus, Bamboo and a host of NTFP species including biodiesel yielding Pongamia and Soil and Water Conservation measures on a watershed development mode. The activities are supported by focused research back up to ensure quicker and higher returns and development of a comprehensive database on the resource itself through a scientific inventory.

Following are the physical achievements of various treatment models under the Project:

TABLE - III

Treatment model	Target	Achievement	Percentage
(a) Natural Forests			
Rejuvenation of Teak Forest	1,50,000	1,47,910	99
Rejuvenation of Misc. Non-Teak Forest	1,00,000	77,611	78
Rejuvenation of Bamboo Forest	59,100	49,979	85
Rejuvenation of Red Sanders Forest	5,000	2,378	48 *
Sub total (a)	314100	2,77,878	89
(b) Artificial Regeneration			
Eucalyptus	8,565	12,622	147**
Bamboo	3,780	3,819	101
NTFP and Biodiesel Species	18,643	48,882	262**
Long Rotation Timber species	1,687	1,199	70

*Poor achievement is due to inadequacy of improved and cost effective technology for improving Red Sanders forests. Further as income generating capacity of these forests is limited, and considering GOAP's and GOI's policy on harvesting and marketing Red Sanders, investments have been scaled down.

It may be seen that the targets set out under the Project for treatment to forests were achieved. Massive asset of 70,072 ha of productive plantations raised under the Project go a long way in ensuring sustained economic benefits to the participating communities.

Studies from Geomatics wing of the Forest Department covering the entire State covering the VSS forests and the forests in the neighborhood of the VSSs have shown positive trend ever since

participatory forestry management has been scaled up in Andhra Pradesh. The following statistics testify this statement.

(In Sq. Km.)

TABLE - IV

Year/area in Sq. Km.	Dense forest	Open forest	Scrub forest	Others
1996	10302.70	18033.31	25684.80	9793.49
2002	140684.40	24419.78	20323.20	5002.92
2006	16000.64	24333.66	19884.98	3595.02

Research and Development: Activities pertaining to Forestry Research of this Project are in tune with Country wide overall forestry research strategy evolved by the Indian Council for Forestry Research and Education. They deal with tree improvement of major species like Teak, Eucalyptus, Casuarina, Tamarind, Emblica, Pongamia etc. Emphasis is also laid on micro propagation and other scientific means of propagation of these species and their multiplication after testing. A robust strategy for testing high yielding clones of key species exists in the form of Multi location Clonal Trials and this is one of the major activities of the Research initiative of this Project. Frequent interactive seminars are held in the field research centers and the technology dissemination centers (14 central nurseries were upgraded as technology dissemination centers) to ensure transfer of technology.

Strengthening training infrastructure and Training institutions: The APFP, the fore runner of APCFMP had invested in setting up a central training facility in the form of Andhra Pradesh Forest Academy (APFA) at a place called Dulapalli in the outskirts of Hyderabad. APCFMP invested in further upgradation of the infrastructure by providing support to establishing a hostel and an auditorium and improving other facilities in its campus. This Academy conducted in-service training programmes for frontline staff, regular training programmes for VSS members, NGOs, etc. and refresher training programmes for officers and staff of Forest Department.

Development of Bio-shield: After the Tsunami that struck Asian coasts during December 2004, in consultation with the World Bank and GOI, action was initiated to create bio-shield along the coast of Andhra Pradesh. The coastline of Andhra Pradesh stretches over 1100 Km and is broken by major delta regions in the estuaries of Rivers Godavari, Krishna and Pennar. These estuaries are a home to unique ecosystem of mangroves which apart from protecting the inlands from tidal waves also provide breeding ground for a number of aquatic life forms. Over the years, due to unscientific management and biotic pressure, these mangrove forests had been degrading. The Project initiated measures for restoration of degraded patches within the mangrove forests by facilitating easy flow of saline water and ensuring a healthy mix of fresh and saline water so essential for the mangrove forests, coupled with artificial regeneration of major mangrove species. An area of 2190

ha was treated through these measures so far under this Project.

Another initiative of creating bio-shield is setting up shelter belts in other areas along the coast with a strip planting of Casuarina. Casuarina planting has been a popular and economic activity among farming communities in this area. But the Project's initiative was to plant up gaps that existed in the forest lands along the coastal corridor to plug the holes and establish an effective shelterbelt. This activity has been taken up over an extent of 3422 ha through 190 VSSs.

Forest Inventory: A state wide Forest Inventory was taken up under the aegis of this Project. Such an exercise was last done in the 1970s and all subsequent efforts were regional or location specific and limited to revision of Working Plans. This massive inventory covering nearly 7000 sample points covers the entire gamut of topology, vegetation details and growth parameters of Forests and created a good database with multiple utilities.

Monitoring and Evaluation: A framework for Monitoring and Evaluation has been developed covering Input-Output monitoring, Participatory monitoring, Participatory evaluation (Social Audit), concurrent monitoring and independent evaluation.

Software has been developed with in-house expertise for Input –Output monitoring using MS Access-Visual Basic-Seagate Crystal Reports combination. It captures information on physical and financial targets besides community details, sanctioned works, financial progress, income generation, baseline and relevant socio-economic and environmental indicators.

A robust spatial information system also exists within the Forest Department which periodically analyses vegetation changes through Remote Sensing coupled with Geographic Information System and Global positioning System technologies.

Further activities planned for the remaining period of the Project: As already stated, by March 2009 (the current date of closure of the Project), only 88 % of the available credit would be utilized. This saving was primarily due to fluctuations in foreign exchange rates. In consultation with the Bank this amount was mainly spent to further strengthen the 1000 (Thousand) identified strong VSSs.

Consolidation of forests treated through appropriate silvicultural interventions: As already stated, an area of 347,950 ha has been treated through various silvicultural interventions. This includes an impressive 70,072 ha of productive plantations of high value species like Eucalyptus, Bamboo, Pongamia, Teak etc. Plantations of these species raised with heavy initial investments need careful maintenance till they come to a stage where they can start yielding.

Further, 147,910 ha of degraded teak forests have been treated with silvicultural operations of coppicing and singling. Since these forests were subjected to negative selection and biotic pressure in the past, further silvicultural intervention in the form of silvicultural thinning and removal of double and multiple leaders coupled with fire management would go a long way in consolidating what has been done so far.

While an estimated 30% of these sites have potential of graduating to timber yielding forests in due course, the remaining may at best remain at pole stage. These productive sites have potential of supporting timber stands worth Rs. 450 Crores and depending on the site specificity and objectives of management (whether to manage for large sized timber or small timber) tremendous revenue potential exists. In addition to revenue from timber when harvested, **these rejuvenated stands also provide tremendous potential for accessing carbon revenues.**

Two mega events that took place during the course of implementation of the project, described below might have had some effects on the forestry practices of erstwhile AP (States of Telangana & Andhra Pradesh):-

1. In 2004 Sri. Chandra Babu Naidu lost the election and Late Sri. Y. S. Rajasekhara Reddy became the Chief Minister. With utmost regards to both of them, it should be recorded here that Sri. Chandra Babu Naidu used to take a lot of interest in the functioning of the VSSs and take up field visits in order to interact with the VSS members. Consequently enthusiasms among the different VSSs ran very high.
2. The enactment by the Parliament (Recognition of Forest Rights Act) scheduled tribes and other traditional forest dwellers 2006. The salient feature of the Act briefly mentioned below:-
 - i. Grant of legal recognition to the rights of the traditional forest dwellers.
 - ii. Giving forest dwellers some authority,

power in forest management and wild life management.

With all the good intentions the Act has been enacted by the Parliament to serve the deserving citizens of the country. However in all such events, forest officers have the bitter experience of facing a never ending chain of claims for legal *pattas* in the forest area.

Readers can easily think that a poor landless VSS member will be much interested to become a land owner and he/she can never be blamed for this. But the problem arises when the records are manipulated to show the new cases as old ones in order to earn the eligibility. In spite of all the hurdles the Project with clear stated objectives, committed field level functionaries, a lot of training to staff and the VSS members was implemented with enormous success as is evident from the above paragraphs with Table – I to Table – IV.

At the end of the Project, the World Bank team evaluated it and published the Implementation Completion Report (ICR) where a slightly higher rating was given to CFM in comparison to JFM project.

The problems faced by our forests cannot be solved by one or two projects that too covering only a small portion of the total forest area. All the VSSs treated areas under the Community Forest Management Project cover only 35% of the total geographical area of the forests.

Heavy biotic and abiotic pressures that the forests are subjected to daily combined with the concession like free grazing in the forests sanctioned by the Govt. of A.P. in GO. Ms. No.

387 Food and Agriculture (Forest – III) Dept. Dt. 14/03/1968, the damages by the annual fires and the continuous destruction of the forest by the headloaders have practically reduced the forests to a Common Property Resource (CPR).

What we observe about our forests nowadays is the phenomenon which Garret Harding described in 1968 as **“The Tragedy of the Commons”**.

It is because of this that the good forests are becoming degraded and degraded forests more degraded. The forest officers cannot therefore be made wholly responsible for this tragedy/ degradation of the forests, as the facts is that sufficient manpower, financial inputs and appropriate management model have not been made available to the foresters to manage such CPR. Management of CPR is quite a vast subject. However, for this article it will suffice to mention that action system should consist of the four elements viz. “The Manager, The Objectives, The Condition/Environment – Physical, Technological, Economic, Social and Political, and the Instruments” [Managing Common Pool Resources – Kartar Singh].

“For effective implementation of the various instruments strong political will, good leadership at all levels, appropriate organizational structures, dynamic and well informed bureaucrats, committed to the cause of CPR Management professional CPR Managers above all well informed CPR users and other citizens are all essential” [Kartar Singh – P 95].

What is urgently needed is another CFM Project (Comprehensive Forest Management Projects)

covering the entire forest area prepared by an expert committee consisting of foresters, environmentalist social scientist, economists, technocrats etc. with short term, medium term and long term goals clearly stated & strategies out lined in details. It may take quite a long time to achieve the goal as we have experienced now that the handholding of VSSs for a long period of 12 years with the fund flow from the two projects funded by the World Bank could not make many of them sustainable. Moreover the new Project should deal with the balance 65% of the area also by proper treatment practices so as not only to halt the degradation but also start the process of restoration at a quick space.

Since the well-being of the Nation is at stake with the forests, there is need for tireless striving and relentless struggle by one and all to achieve the goal of restoring our forests to their pristine glory. There is no shortcut to achieve this objective. In this long and arduous journey, we may perhaps get inspiration from the following beautiful composition: -

The woods are lovely, dark and deep,
But I have promises to keep.
And miles to go before I sleep

*Ramesh Kalaghatgi was the Project Director of APCFMP and Retired as the Head of the Forest Dept. of present A.P.

** S.K. Das was the Head of the Forest Dept. A.P. and Project Head, APCFMP for most of the period.

Note: Wherever the word AP appears it means the united A.P.

FESTIVAL OF TREES

By
J. V. Sharma

Vanamahotsava, the festival of trees in India, is by now, a familiar event among at least the educated class and educational institutions in the country. It is also popular among the bureaucracy, not so much for its importance, but as one of the many programmes of the State they are expected to carry forward. It was conceived and grounded 67 years ago in 1950. It is thus one of the earliest programmes initiated at the national level. While many of them had fallen wayside, it is really surprising how this programme remained this long on board, at least in name, if not for verifiable results. We hear of Vanamahotsava, once in a year when monsoons hit the country. Nature lovers strongly opine that this issue did not receive the public attention it deserved. Even the intellectuals did not take the programme seriously. Vanamahotsava has therefore remained a symbolic gesture attracting hazy public notice once a year.

India became independent in 1947 and the People of the Country gave unto themselves a Constitution on 26th January 1950. Those were very difficult days for the country and everything that counts for good was in short supply. Two hundred years of foreign rule debilitated the country to an unimaginable low with poverty, illiteracy and ignorance, prevalent everywhere. Partition of the country followed by communal holocaust had only compounded the misery. It was herculean task to feed even the thirty crore population (1947-50) of the country. Planting of trees was not at all an item on the priority list to implement. In fact, it was not even an item to discuss among the people who matter. Yet, Vanamahotsava became a State-sponsored programme in 1950!

What were the reasons and how it happened are the questions that are bound to arise. By all standards, there was much better tree growth in those days. Vast chunks of natural forests were existing all over the country. Interior and inaccessible forests were unexploited. Despite selected removal of large sized valuable timber species like teak, rosewood etc. by the British for shipbuilding and other purposes in their native country, the forest resource in India was extensive in size as well as quality. Internal consumption was extremely moderate. Timber in industrial use was unheard of. Only notable activity involving timber was for agricultural implements and house construction. In either case the demand was very moderate because the purchasing capacity of the user was severely constricted. Besides, there were very large wooded areas outside the Reserve Forests. These unreserves acted as buffers to save the reserve forests from encroachments and pilferage of timber. Timber market was sedate and it was common sight to see that many timber coupes put

up for sale by the Forest Departments remained unsold. Much later, even after I joined the Forest Department, I had seen contractors not coming forward to buy coupes in interior areas. The Forests were safer and forest protection was not a big issue. People were mostly law-abiding. There were no ostensible compelling reasons at that point of time to go for tree planting as a national programme.

Then how did Vanamahotsava come in? It was on account of one man by name Kanhialal Maneklal Munshi, popularly known as K.M. Munshi. The position he held on the day was Minister for Agriculture in Government of India in the Central Cabinet headed by Jawarlal Nehru. 'Forests' was not a separate independent portfolio in those days and was a part of Food & Agriculture. It was for this reason the first National Forest Policy, 1952 in Independent India came to be unveiled through Department of Food and Agriculture. Many among the present generation may not know Mr. Munshi. He was a multi-faceted personality. Besides being a high ranking politician in the struggle for freedom and even thereafter, he was a famous jurist and a great writer himself. He has numerous achievements to his credit, the most prominent among them being the establishment of Bharatiya Vidya Bhavan, an institution imparting value based education in India. He effectively controlled communal riots as Home Minister in the composite Bombay State. He was Agent General for Government of India to the Princely State of Hyderabad in the turbulent days of political unrest just after Independence leading to Police Action and eventual merger of the State with Indian Union. It is a different matter that he had no warm relations with Panditji which hampered his progression in political life. It is a blessing in disguise in as much as Munshi, free of political bondage, contributed immensely to the Nation founding Bharatiya Vidya Bhavan and contributing invaluable treasure of literature to Nation which he could not have done in active political office. He was a much sought after lawyer too. He was known to be a visionary and a man of firm action with out of box solutions. If Vanamahotsava was his brainchild, he evidently had ample reasons and justification.

It is 67 years since Vanamahotsava was launched by Mr. Munshi. A look at the present scenario provides a picture that the country's population which was mere 300 million in 1950 has more than quadrupled. So also there is matching demand on resources. Socio-economic indices are progressively improving straining the resources beyond capacity. Forest resource cannot be an exception. Industrialisation, increased farming, encroachments, mining etc have taken heavy toll of the forests. All the unreserves and revenue land outside the Reserve Forests vanished. There is very heavy pressure on land and forests are bearing the brunt. If this is the fate of land, the fate of greenery can only be worse.

A simple comparison of the conditions obtaining in 1950 with those of present days will drive us to the inescapable conclusion that Mr. Munshi had correctly visualised what the future is going to be. It was for this reason Mr. Munshi hit upon the idea of tree planting even in the times where there was no dire necessity. All would agree in hindsight that his idea of Vanamahotsava is fully vindicated. That the Forest Departments/Governments of later era embarked upon ambitious projects of tree planting is a testimony to the visionary concept of Vanamahotsava. Significantly, he commended planting of trees not as a mere programme but as celebration of festival. Obviously, he desired the programme to be treated not in material terms but with some emotional linkage of celebratory obligation.

Vanamahotsava Programme calls for planting of trees wherever possible in the first week of July every year. It is being celebrated as a national programme and compliance is sought from the ground level. As stated earlier, the conditions were not so compelling to need planting and the much needed seriousness in implementation was found missing. While the bureaucracy in general is naturally expected to be lukewarm towards such abstract programmes lacking verifiable data, the forest departments were no less guilty. It all resulted in a sort of sham implementation with manufactured statistics of targets and achievements. It is painful to state that the programme was reduced to listless ritual without soul and was being seen as a butt of ridicule in private. Year after year lakhs of seedlings were shown as planted and healthy survival rates were also projected. No ground truth verification was ever undertaken and fictitious figures of planting continued for very long time.

A stage had come when vanishing tree cover started staring in the eye and the damage caused to greenery was no longer a secret. Trees grow in the open. The loss of tree growth is too apparent to miss attention. It necessitated putting in motion different proposals for replenishing the tree growth and to augment the existing one in the form of mega forestry projects at great cost to the exchequer but surprisingly, none turned back to take account of planting done under Vanamahotsava and other schemes. We called these efforts of modern day by different names like social forestry, farm forestry etc and coined attractive terminology for modules like JFM and CFM. Projects prepared in the modern era, provide for various checks and balances on implementation. Mid-term appraisals and final evaluation by outside parties were also provided. Yet, it has to be said rather with lot of disappointment that the outcome is not much to be desired. I don't think any of these projects executed can stand to field scrutiny today. It has to be said with heavy heart that the mega forestry projects devised to improve the greenery and executed with lot of fanfare at

huge repayable loans, can at best be only a shade better than the dismal results of Vanamahotsava.

Should all the planting figures under Vanamahotsava be totalled and correct, greenery would have been abundant not to need any of the later day forestry projects. Similarly, should all the achievements projected in forestry projects be correct, our forests would not have been so poor in quality at only 11% of our forests containing 0.7 density. In the final analysis, the whole sequence of events point to the fact that the implementation and follow up action had been tardy, irresponsible, inefficient and even insincere. This is the area grossly ignored for several decades and is the most visible grey area in forest sector.

While the implementing agencies have been chiefly instrumental for failure of tree planting programmes, be it under Vanamahotsava or the greenery projects later, the political executive always played the Nero's role. They maintained sphinx like silence all through and there are no instances of seeking accountability. They were content with gaining full executive, administrative as well as professional control over the Forest Departments.

Mr. Munshi set the long time agenda of Vanamahotsava before the Nation. He did not make it a time-bound programme and it implies that he had also foreseen the likely callousness of coming generations in the matters of its implementation. Those were the days when even the forest professionals did not seriously debate environmental issues. The entire political class and most of the bureaucracy and governmental agencies strongly held the view that land under tree cover was a wasteful proposition and it should be diverted for agriculture and other productive purposes. It was against this thinking in the establishment, Mr. Munshi, despite his being the Agriculture Minister, had taken the first ever initiative to grow more and more trees. It is a tribute to his vision, firmness and sagacity.

In this long history since 1950, we had not seen any political leader taking up the cause of environment sector. If some good words were said in favour of forests by the dignitaries at prestigious platforms, it was only a formality to befit the occasion. The consequences are there for everybody to see. There was total absence of political will in the matters of improving the tree growth in India and it had only helped turning many wooded areas desolate.

We had seen an exception in the Chief Minister of Telangana State, Mr. K. Chandrasekhar Rao. We saw him espousing the cause of forests from day one of his rule. He made the people know that he is determined to improve the tree cover to achieve the goal of one-third of geographical area of the State under tree cover. He grounded the ambitious scheme of '*Telanganaku Haritha Haram*'

(THH) with a target of planting 230 crore seedlings over a period of three years. He has taken care of most of the grey areas which contributed to failures in the past by making District Administration and the respective Departments at ground level responsible for identification of areas and implementation of the scheme outside the forests. Effective monitoring and evaluation mechanism is also put in place.

But there is a feeling in a section of the public that the THH is too overambitious and is far removed from the realistic probabilities. It is said that the work force at disposal is inadequate to meet the challenge. The Scheme did not go the expected lines in 2015, the first year of implementation, because of poor monsoon. It is said that the implementing mechanism belied the expectations of the CM in respect of 2016 planting. It is reported widely in the press that survival percent of the saplings planted is woefully poor and observers put the figure hardly at 35. Critics say that even this estimate is liberal and the actual survival percent in non-forest areas could be as low as 10 to 15, the exceptions being seedlings planted in institutions and protected premises. It only means that the past experience of Vanamahotsava continues to haunt. Should these estimates be correct, the bureaucracy needs to be blamed squarely for dismal results, for the reason the Hon CM placed too much reliance on the Collectors and there could be something seriously wrong in planning and execution of the scheme. In any case, the spirit of Vanamahotsava had caught up and with the younger generation seriously debating global warming, climate change and preservation of environment, we may yet hope for better days for greenery. The aberrations apart, it has to be accepted without reservations that the concept of Vanamahotsava is being slowly taken seriously. After all, the present day planting programmes and projects are nothing but extensions of Vanamahotsava.

“One of the big questions in the climate change debate: Are humans any smarter than frogs in a pot and slowly turn up the heat, it won’t jump out. Instead, it will enjoy the nice warm bath until it is cooked to death. We humans seem to be doing pretty much the same thing.” (Jeff Goodell)

PANCHAVATI FOREST PARK

By
K.B.R. Reddy

INTRODUCTION: There are quite a few forest blocks around twin cities of Hyderabad and Secunderabad. These are the old grass *kanchas*, and *Shikargahs* (hunting grounds) set up for the exclusive use of the royal family of the ex-rulers of the Asafjahi dynasty. Many of the lands were managed as the private property of *Sarf-e-khas*, to meet the expenses of the royal families. After integration of the state of Hyderabad with Indian Union, all such lands were acquired by the Government by paying compensation to the VII Nizam Sir Mir Osman Ali Khan, as the lands were undisputedly recognized as the personal property of the Nizam.

After acquiring the lands, they were taken over by the forest department for protection and management. Eventually, the lands were notified as reserved forests and managed under a written scheme of management called The Working Plan. These forest blocks were situated in the former district of *Atraf Balda*, renamed as Ranga Reddy district.

The twin cities, over the years, have grown up in expanse and the population exploded; as a result, the forest blocks became close to the urban and sub-urban areas. The pressure for more space for urbanization is mounting and it became a challenging task to the forest officers not only to protect these "urban forests" from encroachments but also to provide lung space and recreation facilities to the growing population.

DOMNAIR FOREST: Domnair Forest Block with an extent of 67.18 ha (Ac.166) is a reserved forest and a road from Shamshabad to Kothwalguda passes through the forest, dividing the block into two parts with an area of 61 ha on one side and 6 ha on another side. This block, like many other forests, is perpetually threatened with encroachment. Surrounding villagers started already using a portion of the forest land for penning their cattle. The Telangana Forest Department has embarked upon an ambitious programme of protecting the forests more vigorously and at the same time making the forests people - friendly, so as to connect the people to the nature. The first step in this direction is construction of masonry wall all around the boundary of forest block; and improvement of the growing stock. Both sides of the road are fenced with chain-link mesh to protect the area from biotic interference. In fixing the boundary, ACF S.Madhava Rao, played a significant role in resolving the disputes with the adjoining land-holders and the masonry wall is completed except over a small length pending a civil litigation.

PLAN, DESIGN AND EXECUTION: Development and greening programme of Domnair Forest is the brain-child of CCF P.V. Ramana Reddy in charge of Hyderabad Circle. The DFO, D. Nagabhushanam is the designer. Range Officer A. Harimohan Reddy, with a high sense of duty, executed the plan and design. The team of this trio is responsible for shaping the landscape. On promotion of

Nagabhushanam as C.F., he succeeded CCF P.V. Ramana Reddy. The incumbent DFO B. Srinivas joined the team to accomplish the task. The Park was inaugurated by the Forest Minister JoguRamanna in the presence of Transport Minister P. Mahender Reddy on 19.03.2016.

PANCHAVATI FOREST PARK: The smaller part of Domnair forest over an extent of about 6 ha is denuded, with rocky outcrops with sparse tree growth and obnoxious weeds. It is developed zealously and painstakingly, and is named as *Panchavati* with a majestic entry plaza. Its beauty has to be seen to be believed. In the larger part of the block, semi mechanical plantations were raised during 2001-2002 under Green Hyderabad Environment Programme.

Panchavati Forest Park is situated adjacent to Outer Ring Road near Shamshabad village, under Gaganpahad Beat in Ranga Reddy district and present Shamshabad Forest Range and Division. The Domnair Forest Park provides lung-space by ameliorating the ill effects of pollution and also provides space for activity to the residents of the area, It has something good to offer for healthy lifestyle for young and old - walkers, joggers etc. It is best suited also for students of botany for study of forest species. It will be equally interesting for bird-watchers for study of avifauna. Saplings of tree species have been zealously planted with festive fervor as is normally observed during the **Vana Mahotsava**. The unique feature of this park is that it is divided into different segments and each segment is attributed to different tree species called **Vanam**, Viz. *Panchavativanam*, *Nakshatravanam*, and *RashiVanam*.

PANCHAVATI VANAM; The word and expression '**Panchavati**' means five trees. This combination of five trees is mentioned in the Ramayana. When Rama along with Sita and Lakshmana, had to spend life for 14 years in exile living in forest, is known *vana-vas*). They halted in many places including Ashram of Bharadwaj Maharshi. The sage asked Rama to find a place where all the five specified trees co-exist to make a comfortable living. As ordained by the Rishi, Rama made a *parashala* (hut) amidst the five trees. The legend goes that wherever the five trees exist together, there lives Lord Rama. The five tree species are: *Aegle marmelos* (Bilva, Bel, Maredu), *Emblica officinalis* (Amla, Usiri), *Ficus bengalensis* (Banyan, Bud, Marri), *Ficus glomerata* (Ficus, Medi), *Ficus religiosa* (Peepal, Ravi). Please see the picture of lay-out of Panchavati. Please see picture at Page 29

NAKSHATRA VANAM: In Vedic Astrology, birth-star is known as *Janma-Nakshatram*. Birth-Star is the name of constellation in which the Moon was located at the time of the birth. *Nakshatram* or the star describes the trees that correspond to the constellation as described in *vedic* texts. As per the *vedic* astrology, all human beings are ruled by constellations from birth to death. Therefore planting, nurturing and worshipping trees corresponding to respective constellation or the *Nakshatra* considered ensuring health, longevity, growth and prosperity. In the olden days planting of tree species in sacred groves and topes in various geometrical combinations corresponding to circular, linear and elliptical lines representing *Sree-Chakra*, *Sudarshana-Chakra* etc. The

Nakshatravanam in the Domnair forest is an attempt to replicate the sacred grove. The trees representing the 27 *nakshatras* are listed below:

S.N.	Birth Star	Botanical Name	Common Name
1.	Ashwini	<i>Strychnos nuxvomica</i>	poison nut, mushti
2.	Bharani	<i>Embllica officinalis</i>	Amla, Usiri
3.	Krithika	<i>Ficus racemosa</i>	Fig
4.	Rohini	<i>Eugenia jambolana</i>	Jamun, Allaneredu
5.	Mrugasira	<i>Acacia catechu</i>	katha, Kasu
6.	Arudra	<i>Aquilaria agallocha</i>	Agar Wood
7.	Punarvasu	<i>Bambusa spp</i>	Bamboo
8.	Pushyami	<i>Ficus religiosa</i>	Peepal, Ravi
9.	Aslesha	<i>Mesua ferea</i>	Naga Champa
10.	Makha	<i>Ficus bengalensis</i>	Banyan, Marri
11.	Pubba	<i>Butea monosperma</i>	Flame of Forest, Moduga, Palas
12.	Uttara	<i>Ficus infectoria</i>	Juvvi
13.	Hastha	<i>Spondia smangifera</i>	Wild mango
14.	Chitha	<i>Aegle marmelos</i>	Bilva, Maredu
15.	Swathi	<i>Terminalia arjuna</i>	Arjun, Tella Maddi
16.	Visakha	<i>Limonium acjdiddissimum</i>	Elephant apple
17.	Anuradha	<i>Mimusops elengi</i>	Bakul
18.	Jyesta	<i>Pinus spp</i>	Pine
19.	Moola	<i>Canarium strictum</i>	Black dammar
20.	Purvashada	<i>Saraca indica</i>	Sita Asoka
21.	Uttarashada	<i>Artocarpus heterophylla</i>	Jack, Panasa
22.	Shravana	<i>Calotropis gigantia</i>	Silk weed, Jilledu
23.	Dhanishta	<i>Acacia feruginia</i>	Shami,
24.	Satabhisha	<i>Anthocephala cadamba</i>	Kadamba
25.	Purvashada	<i>Azadirachta indica</i>	Neem, Vepa
26.	Uttarashada	<i>Mangifera indica</i>	Mango, Mamidi
27.	Revathi	<i>Madhuca indica</i>	Mohwa, Ippa

Note: Please see the related picture at Page 29

RASHI VANAM: In Vedic Astrology, Moon-sign at the time of the birth is known as *Rashi* or *JanmaRashi*. Moon-sign is the name of the Zodiac in which the moon is located at the time of the birth. There are 12 zodiac signs (Rashi's) and each zodiac sign is associated with 12 kinds of trees. All these find mention in VarahaMihira's *Jyotishsashstra*.

As per the Vedic Astrology each person's future is predicted according to the zodiac sign (*Rashi*) he or she is born in. As these trees are associated with a particular zodiac sign (*Rashi*) worshipping these trees will impart peace and prosperity. Some of the important tree species associated with the zodiac is as follows:

S.No.	Name of Rashi	Botanical Name	Common Name
1.	Mesha	<i>Pterocarpus santalinus</i>	Red Sanders, RakthaChandan
2.	Vrishbha	<i>Alstonia scholaris</i>	Sapthaparni, Edakulapala
3.	Midhuna	<i>Artocarpus heterophylla</i>	Jack tree, Panasa
4.	Karkataka	<i>Butea monosperma</i>	Palasa, Moduga, Forest Flame
5.	Simha	<i>Stereospermum chelonoides</i>	Padari, Ka;igotu
6.	Kanya	<i>Mangifera indica</i>	Mango, Mamidi
7.	Tula	<i>Mimusops elengi</i>	Bakula, Pogada
8.	Vrischika	<i>Acacia catechu</i>	Katha, Sandra
9.	Dhanasu	<i>Ficus religiosa</i>	Peepal, Ravi
10.	Makara	<i>Dalbergia sissoo</i>	Sissoo, Sisham
11.	Kumbha	<i>Prosopis cineraria</i>	Shami, Jammi
12.	Meena	<i>Ficus glmerata</i>	Vata, Banyan, Marri

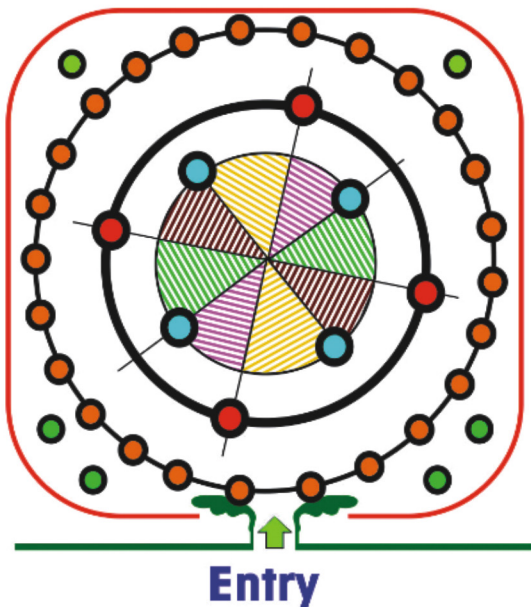
Note: Please see the picture the picture at page 30

CONCLUSION:As an ancillary to planting seedlings in different *vanams*, a beautiful gate to attract visitors is constructed. (Please see the picture at Page30) There is a network of well-planned roads to serve as walkways. (Pictures at Page) A pagoda and Gazebo are an added attraction. (Please see pictures at Page31). A *machan* resting on one side on a fig tree is well thought out; and standing there one can have a panoramic view of the landscape. (Please see picture at page31). *Racha-Banda* is a village symbol. It is a stone bench, where village elders assemble and hold council. An artificial Racha-Banda in the middle of the landscape looks perfectly natural. This will hopefully serve as a place for the visitors to relax.

Chief Conservator Sri Ramana Reddy and Deputies in succession Sri Nagabhushanam and Sri Srinivas are the architects of this park. They were ably assisted by Range Officer Sri Harimohan Reddy I gratefully acknowledge the help I received from Nagabhushanam (since retired) in writing this paper. I also thank him and Harimohan, for arranging a visit for me to see their wonderful work. Panchavati Forest Park undoubtedly is an equitable, accessible and innovative project.

PANCHAVATI FOREST PARK (Photographs & Layout Maps)

LAYOUT MAP OF PANCHAVATI



Ficus benghalensis



Ficus religiosa



Saraca asoca



Aegle marmelos



Emblica officinalis

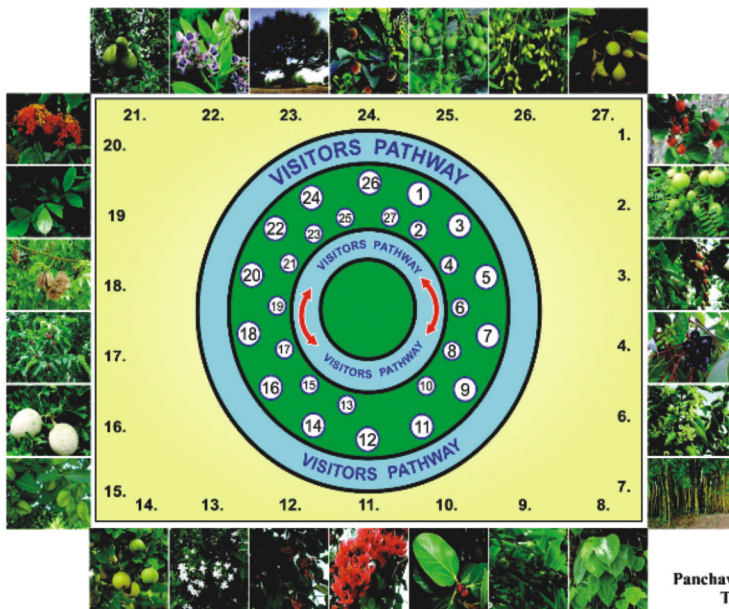
PANCHVATI

A group of five trees, Namely, Vad/Banyan (*Ficus benghalensis*), Pipal (*Ficus religiosa*), Bilva/Bilili (*Aegle marmelos*), Amla/Usiri (*Emblica officinalis*) and Ashoka/Sita ashoka (*Saraca indica*) is called Panchvati.

The numbers of the trees are specified : Vad (4), Pipal (4), Ashoka (25), Bilva (4) and Amla (2) for creating Panchvati. Vad gives shade, Pipal produces vast amounts of oxygen, Bilva is offered to Lord Shiva, Amla has significant medicinal properties, and Ashoka drives away sorrows. It is therefore believed that Panchvati is good for overall well being of the mankind.

Panchavati Forest Dept Telangana

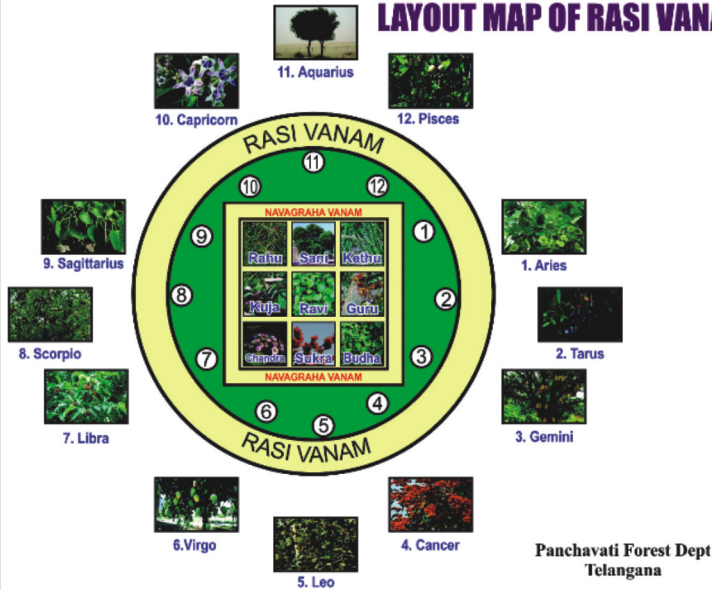
LAYOUT MAP OF NAKSHATRA VANAM



Sl. No.	Nakshatram	Related Plant
1.	Ashwini	<i>Strychnos nuxvomica</i>
2.	Bharani	<i>Phyllanthus emblica</i>
3.	Krithika	<i>Ficus racemosa</i>
4.	Rohini	<i>Syzygium cumini</i>
5.	Mrigasira	<i>Acacia catechu</i>
6.	Ardra	<i>Aquilaria agallocha</i>
7.	Punarvasu	<i>Bambusa bambos</i>
8.	Pushyami	<i>Ficus religiosa</i>
9.	Ashlesha	<i>Mesua ferrea</i>
10.	Makha	<i>Ficus benghalensis</i>
11.	Purva Phalguni	<i>Butea monosperma</i>
12.	Uttara Phalguni	<i>Ficus virens</i>
13.	Hastha	<i>Jasminum auriculatum</i>
14.	Chitta	<i>Aegle marmelos</i>
15.	Swathi	<i>Terminalia arjuna</i>
16.	Visakha	<i>Feronia limonia</i>
17.	Anuradha	<i>Mimusops elengi</i>
18.	Jyesta	<i>Cela pentandra</i>
19.	moola	<i>Canarium strictum</i>
20.	Purva shada	<i>Saraca asoca</i>
21.	uttara shada	<i>Artocarpus heterophyllus</i>
22.	Sravanam	<i>Calotropis gigantea</i>
23.	Dhanishta	<i>Prosopis cineraria</i>
24.	Shatabisham	<i>Anthocephalus cadamba</i>
25.	Purva Bhadra	<i>Spondias pinnata</i>
26.	Uttara Bhadra	<i>Azadirachta indica</i>
27.	Revati	<i>Madhuca indica</i>

Panchavati Forest Dept
Telangana

LAYOUT MAP OF RASI VANAM AND NAVAGRAHA VANAM



Sl. No	Rasi	Related Plant
1.	Aries / Mesha	<i>Pterocarpus santalinus</i>
2.	Taurus / Vrishabha	<i>Syzygium cumini</i>
3.	Gemini / Mithuna	<i>Artocarpus heterophyllus</i>
4.	Cancer / Karkataka	<i>Butea monosperma</i>
5.	Leo / Simha	<i>Ziziphus mauritiana</i>
6.	Virgo / Kanya	<i>Mangifera indica</i>
7.	Libra / Tula	<i>Mimusops elengi</i>
8.	Scorpio / Vrichika	<i>Acacia catechu</i>
9.	Sagittarius / Dhanu	<i>Ficus religiosa</i>
10.	Capricorn / Makara	<i>Calotropis gigantea</i>
11.	Aquarius / Kumbha	<i>Prosopis cineraria</i>
12.	Pisces / Meena	<i>Madhuca Longifolia</i>

Sl. No	Graha	Related Plant
1.	Budha / Mercury	<i>Achyranthes aspera</i>
2.	Sukra / Venus	<i>Butea monosperma</i>
3.	Chandra / Moon	<i>Calotropis procera</i>
4.	Guru / Jupiter	<i>Ficus racemosa</i>
5.	Ravi / Sun	<i>Ficus religiosa</i>
6.	Kuja / Mars	<i>Acacia catechu</i>
7.	Kethu / South Lunar	<i>Desmostachya bipinnata</i>
8.	Sani / Saturn	<i>Prosopis cineraria</i>
9.	Rahu / North Lunar	<i>Cynodon dactylon</i>



Main Entrance Gate



Walkers Path Way



Pagoda



Gazebo



Machan



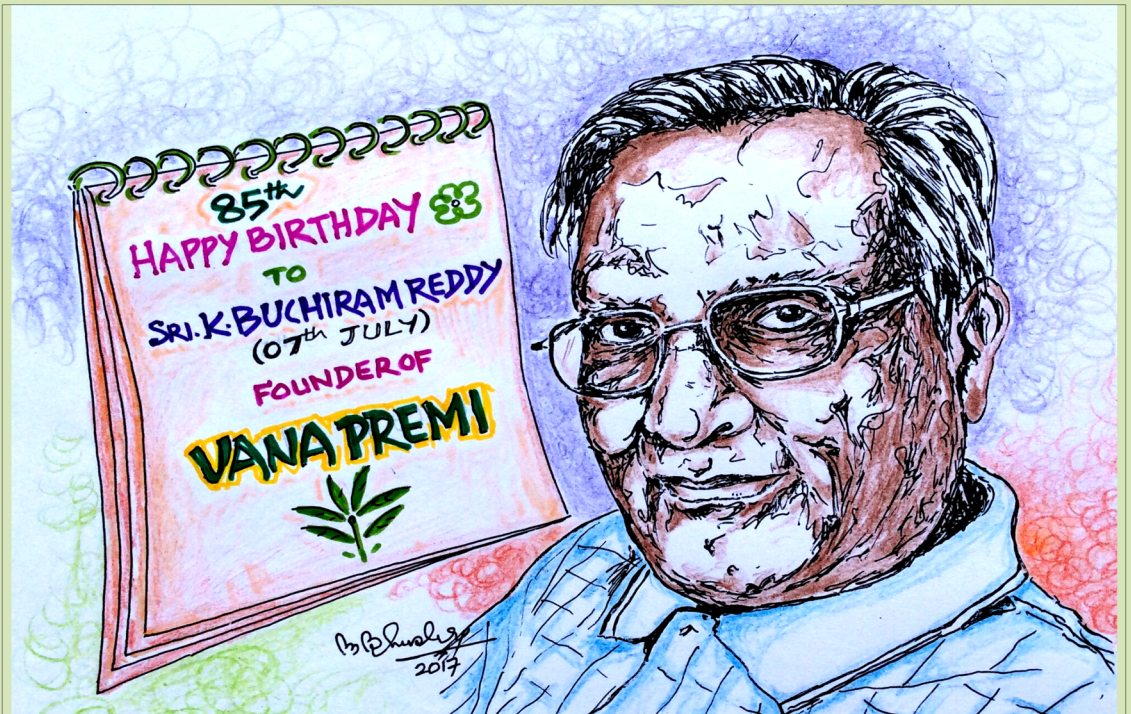
Racha Banda



Rashi Vanam



Sri K. Buchiram Reddy & Smt. Suguna



Art by Nagabhushanam Dasari

Greetings

HAPPY BIRTHDAY TO SRI K.BUCHIRAM REDDY

(on the occasion of 85th birth day 7th July)

by

NAGABHUSHANAM DASARI

Born in 1932 in remote village Edunuthula of Warangal district
Completed graduation in 1954 from Osmania University Hyderabad
Colleagues felt happy with his entry into SFRC the same year
All forest trees in the campus danced merrily & showered flowers

Served with dedication in several wings of forest & other departments
Retired 27 years ago but still looking young & energetic at heart
Untiring & truly experienced forester at the age of elegant eighty five
Even though he had bypass surgery he never bypassed his sincerity

Founder of Vana Premi with vision & love for greenery
With Abundant devotion & affection for forestry & fraternity
No place for the word 'negligence' in his dictionary of life
Timely disposal of issues always with perseverance & persuasion

Completed law course at the age of 60 with utmost commitment
He became a helm to every forester young & old in the department
His legal acumen saved many forest areas from fraudsters
Also intelligent initiative efforts solved intricate contempt cases

For his positive attitude there is no other appropriate substitute
Jewel of forest knowledge & left his legacy to state forest wing
Let us pray the Almighty on the occasion of his birthday
For his healthy, peaceful & full life without any commotion

**Edunuthula = Seven Wells (located on Kadakandla to Palakurthy road)*

SAVE THE MOTHER EARTH

By

V. SANTHASEELA BABU

Preamble: When the evolution took place, by the time the human being found his place on to the Earth, Mother Earth was beautifully clad in her rich robes and almost in her bridal attire. Human has just fallen in to the lap of mother Earth who was adorned with green surroundings. He started surviving in his life by depending upon the leaves, fruits and roots of the greenery and slowly by hunting the wild animals coexisting with him. Man has evolved with his intelligent brain which no other creature is gifted with. With his sustained efforts man evolved in to a civilized being by creating comforts for him one after the other. Created a roof on his head, started growing his own varieties of food stuffs, manufacture of items for his comfort living, transport facilities from one place to the other and what not?

All the above happened only either with the resources available or destroying the available resources in the Nature's Treasure which Mother Earth was richly endowed with. It is a well-known history to everybody as to how the Natural resources got depleted to the greediness of man which needs no mention again. All of us already came to know the consequences we are facing and the penalty we are paying for the mischief we have played with the Mother Earth. Though we are realizing and trying to rectify our mistakes we are not able to cope up with it in proportion to the speed of damage we have caused.

Global Warming: One of the greatest dangers we are heading to be the "Global Warming" which

is the change in the climate of the earth. It is estimated that in 21st century the temperature on earth is likely rise to a further 0.3 C to 1.7^o and 2.6 to 4.8^o C depending upon the rate of emissions of these gases in to the atmosphere. The effect of global warming leads to adverse effects like increase in temperatures in the atmosphere, rising of sea levels, changes in precipitation, expansion of desert areas etc. This is going to be more on the land rather than in the oceans and most in the Arctic. It is also likely to cause extreme weather conditions like heat waves, drought, and heavy rainfalls associated with floods etc. The decrease in the agricultural production due to these factors threatens the food security of human beings.

Throughout most of human history, and certainly before human beings emerged as a dominant species throughout the world, all climate changes were the direct result of natural forces like solar cycles and volcanic eruptions. Along with the Industrial Revolution and an increasing population size, humans began altering climates with ever growing influence, and eventually surpassed natural causes in their ability to change climate. Human-caused global climate change is primarily due to the release, through our activities, of greenhouse gases.

Greenhouse Gases: Global warming is caused by excessive quantities of greenhouse gases emitted into Earth's near-surface atmosphere. Greenhouse gases absorb reflected sun energy, making the Earth's atmosphere warmer. A lot of

the sun's energy reaches the ground directly, and a portion is reflected by the ground back into space. Some gases, when present in the atmosphere, absorb that reflected energy and redirect it back to Earth as heat. The gases responsible for this are called **greenhouse gases**, as they play a similar role as the clear plastic or glass covering a greenhouse. Greenhouse gases are both man-made and occur naturally, and include a number of gases, including: Carbon dioxide, Methane, Nitrous oxide, Chlorofluorocarbons, Water vapor. Optimal amounts of naturally occurring greenhouse gases, especially water vapor, are necessary to maintain the Earth's temperature at inhabitable levels. Without greenhouse gases, Earth's temperature would be too cold for human and most other life. However, excessive greenhouse gases cause Earth's temperature to warm considerably which cause major, and occasionally catastrophic changes to weather and wind patterns, and the severity and frequency of various types of storms.

Greenhouse gases are released into the air, where they persist for a long period at high altitude and absorb reflected sunlight. Some greenhouse gases are emitted naturally through wildfires, volcanic activity, and biological activity. However, since the industrial revolution at the turn of the 19th century, humans have been releasing increasing amounts of greenhouse gases. This increase accelerated with the development of the petro-chemical industry after World War II. The heat reflected back by greenhouse gases produces a **measurable warming** of the Earth's surface and oceans. This

global climate change has wide ranging effects on the Earth's ice, oceans, ecosystems, and biodiversity causing the Greenhouse effect.

Carbon dioxide is the most important greenhouse gas. It is produced from the use of fossil fuels to generate electricity (for example, coal-fired power plants) and to power vehicles. The cement manufacturing process produces a lot of carbon dioxide. Clearing land from vegetation, usually in order to farm it, triggers the release of large amounts of carbon dioxide normally stored in the soil.

Methane is a very effective greenhouse gas, but with a shorter lifespan in the atmosphere than carbon dioxide. It comes from a variety of sources. Some sources are natural: methane escapes wetlands and oceans at a significant rate. Other sources are anthropogenic, which means man-made. The extraction, processing, and distribution of oil and natural gas all release methane. Raising livestock and rice farming are a major source of methane. The organic matter in landfills and waste-water treatment plants releases methane.

Nitrous oxide (N_2O) occurs naturally in the atmosphere as one of the many forms nitrogen can take. However, large amounts of released nitrous oxide contribute significantly to global warming. The main source is the use of synthetic fertilizer in agricultural activities. Nitrous oxide is also released from during the manufacturing of synthetic fertilizers. Motor vehicles release nitrous oxide when operating with fossil fuels like gasoline or diesel.

Halocarbons are a family of molecules with a variety of uses, and with greenhouse gas properties when released in the atmosphere. Halocarbons include ChloroFloro Carbons, which were widely used as refrigerants in air conditioners and refrigerators. Their manufacture is banned in most countries, but they continue to be present in the atmosphere and damage the ozone layer. Replacement molecules include HydroChloroFluoro Carbon, (**HCFC**: a fluorocarbon that is replacing chlorofluorocarbon as a refrigerant and propellant in aerosol cans; considered to be somewhat less destructive to the atmosphere,) which act as greenhouse gases. These are being phased out as well. HCFCs are replacing the more harmful, earlier halocarbons, and they contribute much less to global climate change.

Ozone is a naturally occurring gas located in the upper reaches of the atmosphere, protecting us from much of the damaging sun rays. The well-publicized issue of refrigerant and other chemicals creating a hole in the ozone layer is quite separate from the issue of global warming. In the lower parts of the atmosphere, ozone is produced as other chemicals break down (for example, nitrogen oxides). This ozone is considered a greenhouse gas, but it is short-lived and although it can contribute significantly to warming, its effects are usually local rather than global.

Water vapor plays an important role in regulating climate through processes operating at lower levels of the atmosphere. In the upper parts of the atmosphere, the amount of water vapor appears to vary a lot, with no significant trend over time.

Greenhouse Gases Generated by Mankind

The scientific community as a whole has concluded that naturally occurring greenhouse gases have remained fairly constant over the past several hundred years. Greenhouse gases directly and indirectly generated by mankind, though, have increased radically for the past 150 years, and especially in the past 60 years.

Major sources of greenhouse gases generated by mankind are: Burning of fossil fuels, which includes oil and gas, coal and natural gas. Chlorofluorocarbons, commonly used in refrigeration, cooling and manufacturing applications. Methane, which is caused by emissions from landfills, livestock, rice farming (which uses methane-emitting bacteria), septic processes, and fertilizers. The largest single contributor to the rise of man-made greenhouse gases is, of course, the burning of oil and gas to power vehicles, machinery, and produce energy and warmth.

"Motor vehicles are responsible for almost a quarter of annual emissions of carbon dioxide (**CO₂**), the primary global-warming gas. The transportation sector emits more **CO₂** from all sources combined. And motor vehicle emissions will continue to increase as more vehicles hit our roads and the number of miles driven grows.

"Three factors contribute to **CO₂** emissions from cars and trucks:

1. Amount of fuel used
2. Amount of **CO₂** released when a particular fuel is consumed
3. Number of vehicle miles traveled."

Deforestation Is Also Major Source: But deforestation is also an important, if lesser known, culprit for causing greenhouse gas emissions. The United Nations Food & Agriculture Organization (FAO) observed in 2006: "Most people assume that global warming is caused by burning oil and gas. But in fact between 25 and 30 percent of the greenhouse gases released into the atmosphere each year – 1.6 billion tones – is caused by deforestation..."

"Trees are 50 percent carbon. When they are felled or burned, the CO₂ they store escapes back into the air..."

"Decreasing forest cover, almost exclusively from deforestation in tropical countries, was responsible for an estimated 1.5 billion tons of emissions to the atmosphere above what was gained through new plantings." Deforestation is the largest (manmade) contributor to the greenhouse effect is carbon dioxide gas emissions, about 77 percent of which comes from the combustion of fossil fuels and 22 percent of which is attributed to deforestation."

Summary of "Causes of Global Warming":

Global warming is caused by greenhouse gases, which occur both naturally and are directly and indirectly generated by mankind. While optimal amounts of greenhouse gases are necessary for Earth to be habitable, a profusion of greenhouse gases create disturbances in weather and storm patterns that can be catastrophic. Man-made greenhouse gases have increased greatly in the last 50 years. Among the largest sources of man-made gases is fossil-fuel burning vehicles, worldwide deforestation, and sources of

methane such as sandfills, septic systems, livestock, and fertilizers.

They then warm the atmosphere, the surface of the land, and the oceans. Many of our activities contribute greenhouse gases to the atmosphere. The process of burning fossil fuels releases various pollutants, as well as an important greenhouse gas, carbon dioxide. We know that the use of gasoline and diesel to power vehicles is a large contributor, but overall transportation only accounts for approximately 14% of total greenhouse gas emissions. The single largest culprit is electricity production by coal, gas, or oil-burning power plants, with 20% of all emissions. It's not only about Power and Transportation but also the various industrial processes that use fossil fuels are also to blame. For example, large quantities of natural gas are needed to produce the synthetic fertilizers used in conventional agriculture. Just the process of extracting and processing coal, natural gas, or oil involves the release of greenhouse gases - those activities make up 11% of the total emissions. This includes natural gas leaks during the extraction, transportation, and delivery phases.

Non-Fossil Fuel Greenhouse Gas Emissions:

Cement production hinges on a chemical reaction that releases massive amounts of carbon dioxide. Land clearing (for agriculture or other types of land use) exposes the soil which allows the release of carbon dioxide. Deforestation, especially associated with burning, allows a lot of carbon stored in tree roots, branches, and leaves to be released

into the atmosphere. It's not a trivial amount: together, land clearing and burning account for 10% of all greenhouse gas emissions. Methane (the main constituent in natural gas) is produced in large quantities by microorganisms present in rice fields, making rice production a significant contributor to climate change. And it's not just rice: lots of methane is also produced by cattle and other herbivorous livestock. Temperatures are warming especially fast in Arctic regions, and there the thawing permafrost is releasing both carbon dioxide and methane. By 2100, it is estimated that 16 to 24% of the permafrost will have thawed, entering a vicious feedback loop: as permafrost thaws, it releases stored carbon dioxide and methane, which further warms the climate, melts more permafrost, and releases more greenhouse gases. Just as we create greenhouse gases, we can also take steps to reduce those emissions. It should become clear from reading this list that a whole suite of solution is necessary to tackle climate change, beginning with the switch to renewable energy. Responsible stewardship also means encouraging sustainable agricultural and forestry practices.

Role of Trees in Carbon Sequestration: Carbon sequestration focuses on disposing of carbon, not preventing its release. Carbon sequestration is simply the intake and storage of the element carbon. The most common example in nature is during the photosynthesis process of trees and plants, which store carbon as they absorb Carbon dioxide (CO₂) during growth. Because they soak

up the carbon that would otherwise rise up and trap heat in the atmosphere, trees and plants are important players in efforts to stave off global warming in a process called climate change mitigation.

Trees and plants absorb Carbon dioxide and produce oxygen: Environmentalists cite this natural form of carbon sequestration as a key reason to preserve the world's forests and other undeveloped lands where vegetation is abundant. And forests do not just absorb and store large quantities of carbon; they also release large quantities of oxygen as a byproduct, leading people to refer to them as the "lungs of the earth."

We can help reduction of Greenhouse gases in the following way:

1. Reduce, Reuse, Recycle:
2. Use Less Heat and Air Conditioning
3. Replace regular light bulbs with LED bulbs.
4. Drive Less and Drive Smart
5. Buy Energy-Efficient Products.
6. Use Less Hot Water
7. Use the "Off" Switch on electrical and electronic gadgets:
8. Plant as many number of Trees as possible.
9. Encourage others to Conserve
10. Use energy efficient (star rated) electric devices

Efforts Made Globally for Climate Change: Paris Agreement: The Paris Agreement under the auspicious of U.N. Framework Convention on Climate Change strengthens the global climate effort by requiring all countries to set climate goals and by establishing new mechanisms to hold

countries accountable and build ambition over time. The agreement was reached in December 2015 and came in to force 11 months later.

As of June 2017, 195 UNFCCC members have signed the agreement, 148 of which have ratified. The Paris Agreement builds upon the Convention and – for the first time – brings all nations into a common cause to undertake ambitious efforts to combat climate change and adapt to its effects, with enhanced support to assist developing countries to do so. As such, it charts a new course in the global climate effort. The Indian Government also supported the Paris Agreement and is one of the parties in its implementation.

The Paris Agreement's central aim is to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. Additionally, the agreement aims to strengthen the ability of countries to deal with the impacts of climate change. To reach these ambitious goals, appropriate financial flows, a new technology framework and an enhanced capacity building framework will be put in place, thus supporting action by developing countries and the most vulnerable countries, in line with their own national objectives. The Agreement also provides for enhanced transparency of action and support through a more robust transparency framework.

China stands in the first place of the world in emissions of Greenhouse gases with 23.93%

followed by USA with 13.87% and India stands at 5th place with 6.43%. USA President Trump, Head of a State which is one of the major contributors for the production of greenhouse gases announced that United States would withdraw from the agreement. The decision to withdraw ignores the many US business leaders and a strong majority of Americans who want United States to stay in the Paris Agreement. The Government of India announced its support to the Paris Agreement and ratified the Paris Agreement on Climate Change by depositing the instrument of ratification with the United Nations on, the 147th birth anniversary of Mahatma Gandhi. India is the 62nd country to ratify the agreement.

The Paris Agreement requires all Parties to put forward their best efforts through “nationally determined contributions” (NDCs) and to strengthen these efforts in the years ahead. This includes requirements that all Parties report regularly on their emissions and on their implementation efforts. In 2018, Parties will take stock of the collective efforts in relation to progress towards the goal set in the Paris Agreement and to inform the preparation of NDCs.

There will also be a global stock take every 5 years to assess the collective progress towards achieving the purpose of the Agreement and to inform further individual actions by Parties.

Efforts made in India at the Central Government Level: The following steps are being taken by the Government of India for combating the climate change in India.

1. Promotion of clean energy:

- a. Wind energy.
- b. Solar power
- c. Bio-mass energy
- d. Hydro power
- e. Nuclear power
- f. Clean coal policies
- g. National smart grid mission
- h. Green energy corridor projects
2. Enhancing energy efficiency
 - a. National Mission for Enhanced Energy Efficiency (NMEEE)
 - b. Standards and Labeling Programme
 - c. Partial Risk Guarantee Fund for Energy Efficiency (PRGFEE),
3. Enhancing Energy Efficiency In Industries
4. Developing Climate Resilient Urban Centers
 - a. Smart Cities Mission,
 - b. Atal Mission for Rejuvenation and Urban Transformation (AMRUT) and
 - c. National Heritage City Development and Augmentation Yojana (HRIDAY):
5. Promoting Waste to Wealth Conversion
 - a. Waste to Energy with Solid waste management techniques
6. 'Swachh Bharat Mission' (Clean India Mission)
7. Safe, Smart And Sustainable Green Transportation Network
 - a. Increase freight transportation by Indian Railways
 - b. Development of Dedicated freight Corridors viz;
- Jala Marg Vikas, Sagar Mala Project, Bharat Mala Project
- c. Urban transport : Mass Rapid Transport System (MRTS)
- d. Solar powered toll plazas,
- e. Green Highways (Plantation & Maintenance) Policy to develop 140,000 km long "tree-line" with plantation along both sides of national highways.
- f. Adoption and Manufacturing of Hybrid & Electric Vehicles
- g. Vehicle Fuel Efficiency Program
- h. National Policy on Biofuels by launching Bio-diesel Mission
8. Planned Afforestation
 - a. Launching of Green India Mission (GIM)
9. Abatement of Pollution
 - a. Continuous Emission Monitoring System (CEMS)
 - b. Common Effluent Treatment Plants (CETPs)
 - c. The Fly Ash Utilization Policy
10. Citizens And Private Sector Contribution To Combating Climate Change

Environment Protection under Constitution of India: The Constitution of India laid emphasis long back on the preservation and protection of Forests in the country.

Article 48-A: Article 48-A of our Constitution under Directive Principles of State Policy, which reads as follows: "The State shall endeavor to protect and improve the environment and to safeguard the forests and wildlife of the country".

Article 51-A(g): Environmental protection is a

fundamental duty of every citizen of this country under Article 51-A(g) of our Constitution Fundamental Duties which reads as follows: "It shall be the duty of every citizen of India to protect and improve the natural environment including forests, lakes, rivers and wildlife and to have compassion for living creatures." –

Article 21: Article 21 of the Constitution is a fundamental right which reads as follows:

"No person shall be deprived of his life or personal liberty except according to the procedure established by law.

Article 47: The State's responsibility with regard to raising the level of nutrition and the standard of living and to improve public health has been laid down under Article 47 of the Constitution which reads as follows: "The State shall regard the raising of the level of nutrition and the standard of living of its people and the improvement of public health as among its primary duties and, in particular, the State shall endeavor to bring about prohibition of the consumption except for medicinal purposes of intoxicating drinks and of drugs which are injurious to health.

42nd Amendment of Constitution of India: The 42nd amendment to the Constitution was brought about in the year 1974 makes it the responsibility of the State Government to protect and improve the environment and to safeguard the forests and wildlife of the country. The latter, under Fundamental Duties, makes it the fundamental duty of every citizen to protect and improve the natural environment including forests, lakes, rivers and wildlife and to have compassion for living creatures.

Seventh Schedule of Constitution of India:

The subjects related to environment in the seventh schedule of the Constitution: Industries; Regulation and development of oil fields and mineral oil resources; Regulation of mines and mineral development; Regulation and development of inter-State rivers and river valleys; Fishing and fisheries beyond territorial waters; Forests; Protection of wild animals and birds, etc.. As conferred by Article 246(1), while the Union is supreme to make any law over the subjects enumerated in List I, the States, under Article 246 (3), enjoy competence to legislate on the entries contained in List II, and both the Union and the States under Article 246(2) have concurrent jurisdiction on entries contained in List III. In the event of a clash, the Union enjoys a primacy over States in that its legislation in the Union and the Concurrent List prevails over State legislations. Also, the Parliament has residuary powers to legislate on any matter not covered in the three Lists (Art. 248). –

73rd and 74th Amendments of Constitution of India:

The third tier of government was introduced in the Indian Constitution by the 73rd and 74th Amendment in 1992. The third tier is the local government at rural and urban areas. Rural local governments are called Panchayats and they have been constituted at district, block, and village levels. The urban local governments are the municipal corporations, municipalities and for smaller towns, *Nagarapalikas*. These already existed in some states, and after the amendments, these local bodies were conferred the constitutional status. The eleventh and twelfth schedules to the

constitution list the subjects to be devolved to the rural and urban local governments respectively, but these are carried out concurrently with the state governments. The environmental functions listed for the rural local governments include land improvement, land consolidation and soil conservation, minor irrigation, water management and watershed development, fisheries, social forestry and farm forestry, minor forest products, drinking water, fuel and fodder non-conventional energy sources and maintenance of community assets. For urban local bodies, the list includes subjects like water supply for domestic, industrial, and commercial purposes; public health, sanitation, conservancy and solid waste management; and urban forestry, protection of the environment and promotion of ecological aspects, provision of urban amenities and facilities such as parks, gardens, and playgrounds are listed.

The tree consciousness was first started in the name of "Vana Mahotsava" and was launched in the year 1950 by Shri Kanhaiyalal. M. Munshi, the then Union Minister for Agriculture and Food to create an enthusiasm in the popular mind for the preservation of forest and planting of trees, as "trees mean water, water means bread and bread is life". It was the vision and wisdom of this great leader that the issue of environmental degradation, unless timely action is taken to prevent & restore, it may go beyond human control & threaten the survival of any living organisms on this earth planet. Gujarat was the first state to implement it. However, it was only in the 1970s that greater impetus was given to

the conservation of India's forests and wildlife. India was one of the first countries in the world to have introduced a social forestry programme to introduce trees in non-forested areas along road sides, canals, and railway lines. People celebrate Vana Mahotsava by planting trees in schools, offices, colleges, homes etc. Awareness programmes are also held at different levels. Novel programmes like free distribution of seedlings are also taken up.

Efforts of State Governments in Telugu

States: The Governments in our both Telugu speaking states have realized the loss and the damage we have caused to the environment and started mammoth tree planting programmes in both the states by name "*Telanganaku Haritha Haaram*" and "*Mission Haritha Andhra Pradesh*".

The Forest Departments in both our Telugu speaking states are also doing their might not only in the development of greenery but also in mitigation of bad effects of climate change. One of the feathers in the cap of Forest Department is the implementation of Social Forestry, JFM and CFM Programmes all over the state due to which we are able to notice the change in the landscapes.

However, what has been done till now is not enough to repair the loss and damage already caused to the "Mother Earth". Still lot of efforts has to be put in to bring her to the past glory. As the children of Mother Earth it is our bounden duty to see that her 'Bridal Attire' is restored as it was in the beginning.

Source: Internet

EXPERIMENT WITH AERIAL SEEDING

By

M. Padmanabha Reddy

To improve the tree cover in the state of Telangana, Government has taken up an ambitious programme called *Telangana Ku Haritha Haram*. About 230 crore seedlings are planned to be planted in 5 years period. No doubt the aim of the government is laudable but than a close look of the programme it appears no proper planning was done before grounding the scheme, with the result in the first year, nursery rising suffered for want of required seeds followed by severe drought conditions which effected the survival. Nevertheless, the programme continued with renewed zeal and enthusiasm. Very rarely we come across a Chief Minister of the state, taking so much interest in tree planting involving all the departments at district level. Interestingly, while evaluating the performance of MLAs, Hon'able Chief Minister has included the efforts made by legislatures in *Haritha Haram*. This made the legislators to take interest in tree planting in their respective constituencies thus converting *Haritha Haram* into a mass movement. Innovative methods were evolved to reach the target which includes the seed bombardment in barren lands so that with little efforts large tracts can be covered. This seed bombardment reminds me of an experiment made earlier in Mahbubnagar district which I would like to share here.

1. I was working as D.F.O. (S.F.) Mahbubnagar (in the year 1987). One day I received a phone call from Sri K.V.S. Babu, Prl. CCF asking me whether I can take up aerial seeding in degraded R.F. blocks in Mahbubnagar. Without knowing anything about aerial seeding

I said yes, than he asked me to come to Hyderabad next day and meet him in the office at 11 A.M. In the meeting there were 4 D.F.O.s from other divisions and couple of pilot officers and scientists. After discussions Mahbubnagar was selected for aerial seedling. I took the pilots and scientists to Mahbubnagar and had interaction with staff regarding location, type of seed and pretreatment. A forest blocks having an area of about 860 ha. was selected near Dhanwada village where the forest consist of Lantana and other thorny bushes. As suggested by the pilots sight for air strip was selected.

Seed treatment (palletization): Seed of Tamarind, *Kanuga*, Teak, *Gulmohar*, *Raintree*, *Sithapal* etc. was procured and palletization started. Cement mixing drums were procured and seed (about 10 Kgs each time) was put along with gum, Gamaxene and urea and water, the drum was rotated making the seed into a round ball and dried (Gum for retaining moisture around seed, Gamaxene as insecticide and urea as fertilizer).

Site Preparation: Boundary lines of R.F. (outer periphery) were white washed for guidance of the pilots. The area was divided into 8 strips length wise (compartments) and each strip was marked with red flags.

Airstrip preparation: An air strip of 500 meters length and 25 meters width was prepared by putting a layer of *morrum* and consolidated. A day before the work, plane landed and took trial run.

Aerial Seeding: Pelletized seed was filled in the

boxes of the plane. It was proposed to make 8 sorties. One corner of the air strip along with elders of surrounding villages was sitting in the tent. When the plane took off and started dropping seed the fallen seed after hitting the ground is bouncing back.

The villagers watching the operation commented that because of hard soil the seed even if it germinate may not establish as the roots may not penetrate the hard soil. I did not take their observations seriously. In the first week of September enumeration was taken up, 8 sample plots with an area of 10 ha. each were laid and germination counted. About 50% of the seed only germinated, small seedlings were observed where the soil is loose and on the small *nala* banks. Again in the month of March, survival count was taken. Most of the seedlings on hard soil dried up trampled and eaten away by cattle. The seed fallen in lantana and thorny bushes germinated and the seedlings were found surviving. Over all the survival was below 5%.

In many parts of the world especially in inaccessible areas and large scale burnt areas aerial seeding is still in vogue. In some places Drones are used for areal seedling. In the final analysis, it is clear that areal seeding is a failed experiment in Mahbubnagar. I submitted a report analyzing the factors which led to failure.

a) Hard Soil: Though the germination was about 50% in rainy season, most of the seedlings could not develop roots on hard soil and dried.

b) Heavy grazing has damaged the seedlings.

c) Only few seedlings survived in thorny bushes.

It is reported that in Chittoor town a hillock is full of Red Sander trees and the credit of creating the Red Sander forest on the hillock goes to a British collector at that time, that in early

morning he was going to the hillock for partridge hunting. In the process he used to rake up soil with walking stick and dibble a Red sander seed which he was carrying. In this way the hillock is now with full of Red sander trees. In yet another example it is reported that in forest areas germination and establishment of seedlings was higher where wild boars rack up soil for rhizomes and tubers compared to undisturbed and hard soil surface.

After the failed experiment of aerial seeding lessons were learnt and a small and simple technique was developed. It consisted of a G.I. pipe of 2 m. length and 5 Cm. dia, one end of the pipe was cut and a pointed edged (like crow bar) was prepared. In thorny and Lantana bushes in degraded forest areas the soil is racked up using sharp edge of the pipe and seed pellets (2 to 3) were sent through the pipe to land in raked up area, this gave good germination and survival.

I understand the seed bombardment operation is being taken up in Warangal under *Haritha Haram*, where seed is put in a ball of earth dried and broad casted (bombarded) manually in open areas. It is also reported that in Karnataka the seed bombardment gave good results. Hard soil and heavy grazing incidence are the limiting factors in the whole exercise and Warangal officials have to come over these two constraints to make seed Bombardment a success.

The Hon'able Chief Minister repeatedly saying that *Haritha Haram* will bring the rains to villages and drive always the monkeys to forests. Let us hope the efforts being made by the government to make Telangana green will be successful and the monkeys creating lot of problems will go back to Forests and bountiful rains shower.

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		5.	D.Nalini Mohan	15-07-1962
			6.	Swargam Srinivas	15-07-1962
1.	K.Buchiram Reddy	07-07-1932	7.	G.Chandrasekhar Reddy	18-07-1965
2.	K.Madan Mohan	10-07-1942	8.	Dr.K.Gopinatha	21-07-1963
3.	N.Varaprasad Rao	10-07-1948	9.	Ajay Kumar Naik	03-08-1965
4.	M.Prasada Rao	10-07-1947	10.	Ratnakar Jauhari	02-08-1970
5.	C.Ramakrishna Reddy	11-07-1931	11.	N.Qadar Vali	06-07-1960
6.	M.Padmanabha Reddy	14-07-1941	12.	P.Premkumar	10-07-1983
7.	M.K.Prasad	14-07-1945	13.	S.Ravishankar	16-07-1964
8.	N.Shyam Prasad	16-07-1955	14.	Smt.S.Sujatha	18-07-1975
9.	A.Shankaran	16-07-1956	15.	B.M.Chanakyam Raju	18-07-1957
10.	B.Pratap Reddy	18-07-1928	16.	Smt.T.Jyothi	23-07-1975
11.	K.Santokh Singh	21-07-1937	17.	Mrs.G.Krishna Priya	24-07-1982
12.	Mohd.Ibrahim	22-07-1954	18.	V.Anjaneyulu	24-07-1966
13.	Onkar Singh	27-07-1953	19.	Smt.I.Padmaja Rani	26-07-1976
14.	S.M.Selvaraj	01-08-1953	20.	B.Janaki Rao	26-07-1961
15.	L.Ch.Tirupaelu Reddy	01-08-1956	21.	Ms.M.Babita	26-07-1972
16.	V.Parthsarathy	02-08-1944	22.	P.Dhanraj	28-07-1963
17.	Hitesh Malhotra	03-08-1952	23.	A.V.Ramana Murthy	28-07-1969
18.	P.Adivappa	03-08-1953	24.	Smt.M.Hima Sailaja	29-07-1980
19.	A.V. Joseph	05-08-1956			

S.No.	Name of Serving Officers	D.O.B.
1.	Prashanth Kumar Jha	07-07-1959
2.	N.Pratheep Kumar	07-07-1963
3.	Dr.Chandra B.Malasi	08-07-1957
4.	Rahul Pandey	14-07-1974



Secretary

HOMAGE TO SRI H. RAJAGOPAL SHETTY, I.F.S (RETD) – A LEGEND AND A TORCH BEARER

By
V. SANTHASEELA BABU

I am writing these following lines with a deep sense of sorrow, profound grief and a heavy heart for the information of the readers of 'Vana Premi' in connection with the sad demise of our beloved Instructor in Southern Forest Rangers College, Coimbatore, Sri Hirekuduru Rajagopal Shetty, I.F.S (Retd) hailing from Karnataka State and borne in Tamil Nadu Cadre. He underwent Forest Rangers training in the Southern Forest Rangers College, Coimbatore in 1949-51 batch and he came to his '*Alma mater*' as a Lecturer in Forestry (Instructor) and he became a beloved Instructor and a guide who molded the careers of thousands of Forest Officers trained in the Southern Forest Rangers College, Coimbatore for a decade between the years 1963 to 1973 as a "Torch Bearer".

After successful completion of training in 1949-51 Rangers Course in the Southern Forest Rangers College at Coimbatore he was posted as Forest Range Officer, Cherla Range of the then West Godavari District in Composite Madras State. (Present Khammam District in Telangana State) Like this he is connected with our erstwhile Andhra Pradesh and present Telangana States. During our training in SFRC, sometimes he used to talk to us in Telugu also and was explaining

the Telugu vernacular names of species that we were coming across in the field. He was loved, liked and respected by all the Trainees irrespective of their States and Countries.

Besides the training in SFRC, he also underwent training in Protection, Soil Conservation and Land Management Training Centre, Ootacamund during 1955-56 and was awarded Diploma in Soil Conservation and Land Management.

After his repatriation from the Forest College to his parent State, Tamil Nadu, he worked as District Forest Officer, Survey of Forest Resources, Madras for a small period from May 1973 to November 1973 and then was transferred as Forest Working Plan Officer, Salem and he worked there up to May 1976 and contributed to the preparation of Working Plan for Salem. Thereafter, from June 1976 to April 1979 he worked as District Forest Officer, Cuddalore in South Arcot District. From May 1979 to June 1981 he worked as Divisional Forest Officer, Social Forestry, Vellore in North Arcot District. From 1981 to 1983 he worked as Soil Conservation Officer, Madras. During 1983 he was promoted to the Super Time Scale of I.F.S; and worked as Conservator of Forests in

Ooty and Tirunelveli Circles. He retired on superannuation in the year 1987 and till his passing away he was leading an active life.

After his retirement, he started a Solar Fencing Company called "Suraksha Energizers" for protecting the Nurseries and Farm Fields of farmers from the damages being caused by wild animals that stray from the Forests. For this purpose during 1988 he visited Australia and studied on the Production, Installation and Maintenance of Electric Fence. Since 1987 this Firm was involved in the manufacture of equipment related to Electric Fence on German and New Zealand Technology.

He worked as a Resource Person (Forestry Consultant) for the Evaluation of Social Forestry Programmes under SIDA Aid in Tamil Nadu and preparation of Education materials for the rural poor for tree planting under SIDA Forestry Coordination Programme. He also worked as the Consultant to the Kerala Forest Department on World Bank Forestry Project on planting technique during 1997-98.

The following are some of his contributions to Forestry and Achievements as a Forest Officer:

(i) Special Assignments Carried out by Sri. H. Rajagopal Shetty:

The following were the Special Assignments entrusted to Sri. H. Rajagopal Shetty:

1. Appointed as a member of the High Level Technical Committee by the Government of Tamilnadu in 1986 to evaluate the Eco-

Development works under Kundah River Valley project

2. SIDA Assignment
3. SIDA sponsored study report on Panchayat Management in North Kanara District
4. Consultant on World Bank Aided Kerala Forestry Project during 1996-97.

(ii) Publications:

The following are the publications authored by Sri. H. Rajagopal Shetty:

1. Sandal-on exotic : (published in Indian Forester-1979)
2. Volume table for Acacia nilotica (published in Indian Forester-1984)
3. Principle and practice of point sampling in estimate of yield in forest crops, (Government publication-1975)
4. Growth rate of sandal (1977)
5. A new approach for stock mapping sandal crop (1977)
6. Site quality and yield prediction in crops of Acacia nilotica (1987)
7. Circular Terraces for afforestation works (1987)

(iii) Consultancies:

He was a Registered Consultant on Forestry and Allied Subjects to International Organizations as follows:

1. Swedish International Development Authority in India – Madras
2. The world bank – Washington D.C., U.S.A.
3. Food and Agricultural Organization of the

United Nations, Rome – Italy

4. Asian Development Bank – Manila Philippines.

(iv) KNOWLEDGE OF COMPUTER ENGINEERING:

Sri H. Rajagopal Shetty also worked as Guide and External Examiner for post graduate Diploma Course in Operation Research at Computer Centre, College for Engineering, Anna University, Gunidy, Madras for more than 10 years. This shows as to how he has caught up the new technology though being an old timer.

(vi) He was also a Member: in the Panel of experts in Forestry for National Bank for Agricultural and Rural Development (NABARD), Bangalore.

(v) WORKING PLANS AND PROJECT REPORTS:

The following Working Plans and Project Reports were prepared by Sri. H. Rajagopal Shetty which were approved by the Government:

1. Assessment of regeneration, growing stock, annual yield of Sandalwood in Pattrakad R.F in Vellore Division (during 1976)
2. Working Plan for Vellore Forest Division for 1976-1986
3. Working Plan for Tirupattur Division for 1978-1988 (Part)
4. Hill Area Development Programme for Nilgiris for 1985-90
5. Western Ghats Development Programme for 7th plan
6. Programme for the Prevention of Pollution and de-silting of Ooty lake

7. Project for eco-restoration of Kundah River Valley (1985-89)
8. Eco-protection Programme for the Nilgiris (7th plan period)
9. Project for Preservation of Natural Resources and Rehabilitation of Tribals in Mudumalai Wild Life Sanctuary (86-89)
10. Pulpwood production for the next ten years in Nilgiris and Kodaikanal (1985-89)
11. Soil Conservation Programme in Cauvery Catchment (1983-88)
12. Master Plan for planting fuel trees (1988-92)
(For Wentworth Estate, Nilgiris District for implementation with the aid from NABARD)
13. Economic evaluation of non-rotational forest crop raised by "Kudukbab in Tanjavur, Trichy and Pudukottai Districts Tamil Nadu (sponsored by Swedish International Development Authority in India)
14. Socio-economic survey on the Management of Panchayat Forests in Moorur, Kallabbe, Hosad villages Uttara Kannada District (sponsored by Swedish International Development Authority in India)
15. A study on the potentials of Agro Forestry in Agricultural Waste Land in Tamilnadu (1987) (sponsored by India)
16. "Site Preparation and Planting Technique" a report for Kerala Forest Department on World Bank Project (1997-98)

(viii) My Personal Association with Sri. H.

Rajagopal Shetty: My personal association with Sri H. Rajagopal Shetty was quite affectionate. He used to give me personal hearing whenever I had any doubt in the subjects. The following are the excerpts from my Article **“MY SFRC DAYS- A MEMOIR”** published in the “Vana Premi” issue of November 2010 written about him.

“Acharya Devobhava”: When we think of our *Alma mater*, it is quite befitting and appropriate to remember the teaching faculty; our beloved Instructors, who were all stalwarts and laid the foundations in our lives in the various aspects of Forestry and shaped us well from a ball of mud to the stature of perfect professionals.

“Mr. H. Rajagopal Shetty”: He was another great person who laid a very good foundation in Botany for the trainees. While identifying the species in field Botany he was making us to study the leaves in detail; their margins, veins etc. and crush the leaves to smell them and sometimes chew them. This was a practical way of identifying the species. Mr. Shetty was very affectionate with the trainees and at the same time a strong disciplinarian. As he worked in A.P. in his earlier service, he had a good knowledge of Telugu and was telling us Telugu names of the species during identification. We can never forget his teaching and elaborating every aspect of the subject. I had the opportunity of meeting him after leaving the college while I was working as D.F.O., T.T.Ds, Tirumala; when he came on pilgrimage with his

family for *darshan* of Lord Venkateshwara.”

After returning from my training in 1970 and when my marriage was fixed On 12th May 1971, I sent the Wedding Invitation Card for my marriage. I received a reply from him somewhere in the end of June, in which he wrote that when my invitation reached Coimbatore, he was away on Tour and that immediately after seeing the Wedding Invitation on his return, he is replying me. While conveying his heartfelt Best Wishes and Blessings to me and my wife, he remarked “Things like this are better late than never”.

Subsequently in the year 1987 or so when he was Conservator of Forests, Tirunelveli Circle, Mr. T. Rajamannar who was also our Instructor in SFRC along with Mr. H.R. Shetty, was working as D.F.O, Chittoor East Division. I was working as D.F.O, Tirumala Tirupati Devasthanams with headquarters at Tirumala. Mr. Rajamannar came to Tirumala and informed me that Mr. Shetty is coming on that day night with his family to Tirumala and after having ‘*Darshan*’ of Lord Venkateswara he intends to return and we were waiting to receive him. Though it was 10.00 pm in the night, he did not arrive at Tirumala and his whereabouts were not known. All of us returned to our cottages and retired for the day. At about 12.30 am in the midnight somebody was knocking at the door of my cottage and when I opened the door, to my surprise, I found Mr. Rajagopal Shetty in front of me with his family members. He felt very happy to see me

there and immediately I took them to the cottage booked for them and all of them got refreshed and I took them for 'Suprabhathadarshan' of Lord at 3.00 am and arranged a convenient 'darshan' along with Mr. T. Rajamannar. Immediately after the 'darshan' he left Tirumala thanking me profoundly. He was very happy to see me after a gap of nearly 17 years and he did not forget me or my name.

Thereafter I was on touch with him over phone now and then. He did an excellent work of providing Solar Fencing in Kuppam Range of Chittoor West Division for preventing the Elephants straying out from the RFs and I have seen all his works when I was D.F.O, Flying Squad Dn. Tirupati during my inspections that side. I have again met him personally in 2013 at Bhopal, in 2014 at Bhubaneswar and in 2015 at Raipur SFRC Alumni Meets and was in good touch with him.



Sri VSS Babu, Sri V.V. Rajam, Sri Rajgopal Shetty, Q.M.Khan, and Sri Govindarajulu, at Bhopal meet.

He had so many jewels in his crown and he was a walking encyclopedia in Forestry and allied subjects. He is more remembered by his students in SFRC who underwent their training during his tenure as Instructor. He has enforced discipline among the trainees besides being kind and affectionate towards them. He left a Rubber Stamp impression in all the places wherever he worked. He used to attend all most all the SFRC Alumni meets held at so many places and was mingling with all the Alumni as a friend and encouraging them in all aspects not minding of his age. His loss is irreparable to the Forestry Community. **I PRAY GOD TO REST HIS SOUL IN PEACE IN HIS ETERNAL ABODE.**

Note: The Author Profoundly Thanks Mr. Deepak R. Shetty S/o Mr. Rajagopal Shetty, Bengaluru for having provided the valuable information regarding Mr. Rajagopal Shetty for bringing out this article. Thanks & regards



Photograph Taken During 1969 With Mr. H. Rajagopal Shetty at Lal Tibba Mussourie Tour

Sitting : L to R 1. Mr. Agaasa Veeran (TN), 2. Mr. Phiip A. Saidu (Sierra Leon) 3. Mr. V. Santhaseela Babu (A.P.)

Standing : L to R 1. Mr. S.R. Ali (Maharashtra) 2. Mr. Joseph Berchy (A.P.)

BLOSSOMING OF SEVAKSANGH, MAHARASHTRA

By
By V. S. Joshi

With hindsight when I look back, it was during the year 1996, just a year into my retirement from the eventful career into forest service of Maharashtra, I was experiencing the void of sorts for want of any activity to keep myself engaged meaningfully. Then an idea flashed into my mind as to why not start an association of likeminded retired forest servants of Maharashtra to keep alive the bond developed during our service period and also be of some useful service to the cause of forests. Thus I sprang into action and invited some of my responsive colleagues belonging to SFRC batches from 1955-57 to 1960-62 at my place to thrash out our action plan. Some of us were of opinion that this association should consist of the retired forest officers of rank of RFOs and above but I insisted that it should include not only all cadres from Forest Guards to PCCFs but also the ministerial staff. This was eventually agreed upon by all.

Our first step to start with was to include the retired forest servants from Pune territorial forest circle to make it manageable and to designate our association as *Sevanivrutt Van Karmachari* (SEVAK – consisting of initial alphabets of first three words of our nomenclature which also denotes service), *Sangh*, Pune. Then we seven Samaritans with still young mind and having motto of amelioration

of forest wealth at our heart started the laborious spadework of obtaining necessary registration for our organization as a service oriented trust and thus *SavakSangh*, Pune was born on 28.08.1997 with D. H. Datar (1957-59 batch) as Chairman and I (1959-6 batch) as Secretary of the same. While distributing the responsibilities of our managing body amongst us, we also included into it the service of one enthusiastic retired forest guard. We decided to have our annual and life membership subscriptions to be Rs. 100 and 1000 respectively. And by the end of year 1997 we were able enroll 67 members into our organization. I am glad to mention here that out of our 13 illustrious forest officers who have graced the office of Chairman of our organization so far belonged to all ranks from PCCF up to forester. At present Shirish Asthana, (IFS), former APCCF is holding post of Chairman of our association.

Our main goals that we broadly outlined were
1. Creating public awareness regarding, environmental deterioration by publishing bulletins, newsletters and periodicals giving information regarding forests and environmental amelioration. **2.** Organizing seminars and workshops regarding maintenance of environmental balance. **3.**

Collection and collation of information regarding the Government agencies, Non-government Organizations, Industries and Entrepreneurs who are need of the services of experienced retired forest employs and coordinating their needs and professional expertise of retired forest employees for sustenance of viable forestry related projects. **4.** Executing independently works like raising and maintaining forest nurseries, supplying high quality tree seeds, protection of forest parks etc. **5.** Collection and collation of information regarding postal address, phone no and professional expertise of retired forest employees. **6.** Rendering help in solving service related problems faced by retired forest employees. **7.** Executing welfare activities for retired forest employees and their family. **8.** Providing financial help for college education of wards of in-service forest employees serving into remote forest areas. **9.** Providing financial help for college education of capable promising wards of retired forest employees. **10.** Creating welfare fund of *SevakSangh* and utilizing the same for carrying out welfare activities for retired forest employees and their family and arranging cultural events for augmenting this fund.

Our major achievements so far consisted of **1.** Carrying out evaluation of the works executed under centrally sponsored Forest Development Agency by 15 Forest Divisions of Maharashtra state during years 2004 to 2006. The evaluation reports were submitted to the Ministry of Environment and Forests, Government of India and were highly acclaimed for their objective assessment.

2. Preparation of project report for Conservation of Flora and Fauna within the area of 10 km radius around the Coal-based Tiroda Critical Thermal Energy Project of 3300 Megawatt capacity in Bhandara district during year 2009 and also for area of 386.99 hectares of Iron Ore Mines at KesariPhansavade in Sindhudurg district during year 2011.

3. Execution of project of 3.5 years duration for Capacity Development and Training of Personnel for Forest Management out of the soft loan of Rs 45 lakhs received from Japan International Cooperation Agency (JICA) during years 2013 to 2016. The task consisted of preparing education material on forestry related subjects for the front line executive staff of forest department and training of trainers. Similarly evaluation of progress made by so trained forest staff in actual field works executed by them was also carried out under this project.

4. Publication of Tri-monthly bilingual (English and Marathi) Magazine '*Nisargvani*' consisting of 50 pages from year 2005 to 2008 containing informative articles on forestry and allied subjects. One special issue of '*Nisargvani*' containing 100 pages titled 'Three Decades of Forest Development Corporation of Maharashtra' and another special issue titled 'Silver Jubilee of Social Forestry' was published during October 2006 and April 2007 respectively. These issues received very encouraging response from the readers. However, unfortunately this activity had to be discontinued due financial constraints as well

as lack of subscription of articles from the members.

5. Arranging workshop dedicated to the theme of 'Social Forestry Initiative' jointly sponsored by *SevakSangh* and Pune Municipal Corporation (PMC) during period from 26.12.2005 to 08.02.2006 for sake of employees of Tree Authority of PMC, Garden Departments of PMC and Pimpri-Chinchvad Municipal Corporation (PCMC) and local college students. This workshop was comprised of lectures delivered by *Sevak* forestry experts and field visits to the relevant sites.

Generation of revenue to the tune of Rs. 8 lakhs was generated by the end of financial year 2016-17 out of our above mentioned activities and will be utilized by us for carrying welfare activities for our members.

Our expertise wherein we are sufficiently equipped to offer our expert services to the intending agencies is in the fields of **1.** Preparing, Project Reports, for Environmental Impact Assessment **2.** Carrying out Research Projects regarding suitability of introduction of exotic tree species in Indian context. **3.** Organizing Collection of quality forest tree seeds. **4.** Executing projects like raising and maintaining forest nurseries. **5.** Supervising and monitoring of forest plantation Projects. **6.** Carrying out tree and wild life census in any specified areas. **7.** Evaluating forest plantation works and Joint Forest Management activities. **8.** Imparting lectures as visiting faculty into any Forest Training Schools and Post Graduate Forest Management

Institutions. **9.** Paper setting for forestry related Examinations conducted by various institutions and their evaluation. **10.** Organizing interactive workshops and seminars regarding creating environmental awareness among masses. **11.** Preparing landscape designing and execution of area beautification projects. **12.** Conducting Eco-tours. **13.** Conducting departmental enquiries. **14.** Working on contract basis for field duties in forest department. **15.** Maintaining forest land and biodiversity conservation records

Our jurisdiction-expansion that we aspired required us to spread our activities into all eleven territorial forest circles of Maharashtra state and we resolved in our General Body meeting held during year 2013 that our organization should be re-designated henceforth as *SevakSangh*, Maharashtra. We were then able to achieve part of that objective by activating nine circle level branches and enlisting about 350 members by the end of year 2016 out of which more than hundred were life members. We hope to encompass entire state of Maharashtra by end of year 2017.

Our website development was envisaged by us as a launching pad for reaching out to hundreds of our members spread over Maharashtra state as well as our prospective clients in need of our expert services. Accordingly we were able to achieve that goal after five month's efforts in consultation with the competent website developers and our bilingual (English and Marathi) interactive website www.mahasevaksangh.com was

launched on 5th June 2017, the World Environment Day at the hands of B. P. Desai, (IFS) former PCCF, HoFF, Maharashtra. This website contains an extensive mobile/email directory of our members that includes information regarding the post from which the member has retired and the type of his membership. We also revived the practice of publishing a monthly newsletter titled '*Sevakvarta*' with the interactive

facility of member's feedback and positive response to the same from three administrators manning this website namely M. G. Gogate, (IFS), former PCCF, Wildlife, Maharashtra, V.T. Patki, (IFS), former CF and myself.

An appeal is hereby made to the esteemed readers of 'Vana Premi' to visit this website and offer their valuable feedback which will be highly appreciated by us



This photo tells the value of a tree
Plant more trees

OUR BELOVED GRANDFATHER

By

Memoirs by Sri P V Krishnamurthy's Grandchildren

1. I'm not a subscriber to this magazine, but I felt compelled to mention my grandfather, who recently passed away, and was a reader of the magazine. Some of you may have known him, P.V. Krishnamurthy, who as young man enlisted as a Forest Officer. As the eldest of many brothers and sisters, he aimed to set a strong example for the rest of his siblings. My mother often told me, because of his service, they lived in very rural villages, where there wasn't electricity. It wasn't being poor, it was just a way of life then, and a way to stay close to the forests that were under his stewardship. He could be stern at times but never shied away from indulging his daughters whom he loved dearly. Trips to the city would see him return with treats and dresses for my mother and aunt. So how can he relate those stories to me as a youth in Toronto? My grandfather often recounted stories of camping trips taken into the jungles, caging and releasing wild animals and frequent rides in Jeeps. One story comes into mind of employing elephants to fetch lumber, something that might be frowned on now, but something innocent of the bygone time. As I grew older, we discussed politics and religion. My grandfather was a devout man whose early morning rituals included meditation and prayer. Despite this he felt that religion ought to be something only practiced and expressed privately. This

sentiment perhaps informed by having spent his early years under British rule that divided India under racial and religious lines. I was fortunate enough to have the time to talk to my grandfather about these topics. My grandfather informed himself from always reading. He took to the computer using it to draft documents and browsing articles showing that he was willing to learn new things even in an advanced age. He even recently purchased a smartphone but his untimely death prevented him from enjoying it fully. It's true that I have spent the majority of my life living in Canada. But I always tried to make the most of my visits.

It was unfortunate that I wasn't with him when he passed but I had the chance to speak to him briefly when he was hospitalized. He passed away a few days shortly thereafter. Despite our sorrows, we have to remember that the people we lose aren't gone forever if we find a way to honor them. I honor him by continuing to work hard and to strive for success just as he wished for all his grandchildren.

Rest in peace *Tatagaru*

Love, Krishna Chintaluri

2. My grandfather, P V Krishna Murthy, passed away recently. I am writing to share a few thoughts of mine with you, the readers of his favorite magazine. He retired from his service

as a forest officer the year in which all his grand children were born. This meant that he was always there giving us his special attention as we grew up. Some of this came in the form of Luna rides to school, *Dilkhush* from the bakery and his ability to get rare audio cassettes. He himself was a simple man, easily satisfied with what life had to offer, perhaps a trait acquired by virtue of the numerous years he spent close to nature in the villages and forests of the country. However, he aspired to seeing his children and grandchildren have a better quality of life, particularly in terms of access to education. He recently remarked that he was very proud that he as able to achieve that. He had a wealth of practical knowledge and never missed an opportunity to share it with us. Every night, we would, discuss topics such as sport, religion, banking, mathematics, working of machines and his adventures in the forests. A unique aspect of his personality was that he never spoke more than what was required. I would like to emulate this quality of his and end this letter in the same way my interaction with him ended each night, with the words, "Tata, goodnight."

Krishna Manaswi Digumarti

3. Some of you may have known my grandfather P. V. Krishnamurthy, a retired Divisional Forest Officer, who passed away recently. I am writing this as a small memoir of a man whom I deeply

loved and admired, and fondly called "*tata*". Some of the earliest memories I have are of him picking up my brother and me from school carrying us home on each shoulder, later on his Luna. As kids, we would ask him every night to tell us bedtime stories, be it fascinating tales of his adventures in the jungles, or interesting tidbits from his younger days. Despite living in rural villages he always made sure that both his daughters and my grandmother were well educated, something that he took immense pride in. My grandfather was a very principled man and meticulous in maintaining records. It was on trips with him to the post office, banks and tax offices that I first learnt how to write postcards, use a bank and pay income tax. He had a very practical and apolitical view of things in general. His last article on language, in this magazine, reflects this. On the lighter side of things, he enjoyed watching old Hindi and Telugu movies. He was an avid sports lover and we closely followed all the Tennis tournaments together. This will be the first French Open without him.

I was fortunate to have had such a wonderful grandfather and cherish all the moments I shared with him. *Tata*, here is wishing you a heart felt goodbye.

Sundara Tejaswi Digumarti

LEGAL NOTES

Somnath vs. State of Chhattisgarh

The S.H.O of Police Station, Bodhghat received information on 01.02.1996 about a person by name Somnath carrying trophy of a leopard and proceeding to Jagdalpur. He was summoned to the police station and a search was conducted. The information was found true. Somnath was carrying the trophy of leopard in a plastic bag. The trophy was seized and an offence under S.49 B (1) (iii) punishable under S.51 (1) of the Wildlife Protection Act was registered. The accused was served with a notice to produce any licence for possession of the trophy of a leopard. The Forest Range Officer was requested to identify the leopard's skin.

As Somnath failed to produce any document, he was prosecuted by the S.H.O before the jurisdictional criminal court. When examined, the accused abjured the guilt and entered into defence by saying that he is innocent; the prosecution story is false and that he is falsely implicated.

The prosecution examined four witnesses and marked six exhibits. The defence neither examined any witness nor produced any documents. Somnath was convicted and sentenced to undergo six months rigorous imprisonment and to pay a fine of Rs. 500.00. In default of payment of fine to undergo one more month rigorous imprisonment. His appeal in the

Sessions Court was dismissed and the judgment of the trial court was confirmed. Somnath then filed a revision petition in the High Court of Chhattisgarh at Bilaspur.

During hearing of the petition, the counsel for the petitioner urged on the following two points:

- (1). The S.H.O is not competent to lay the charge-sheet before the criminal court; and
- (2). There was no expert evidence for proper identification of the trophy.

A notification of the Government was shown to the court by which all the S.H.Os. were empowered to file complaint before the competent court for any wildlife offence. That answered the objection raised by the counsel. As regards the expert's evidence, the court relied on the evidence of the Forest Deputy Range Officer and felt that forest officers who move in the forest day in and day out are familiar with wild animals and there was no need for any expert evidence.

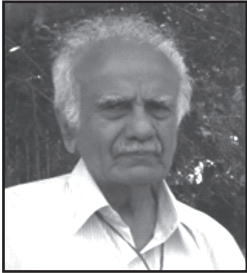
The counsel requested the court to reduce the period of imprisonment. But the court gave valid reasons not to concede to the request of the counsel in the light of the Supreme Court judgment in Murad Ali Khan's case and dismissed the petition on 20.06.2014.

Source: Internet

K.B.R

OBITUARY

Sri H. RAJAGOPAL SHETTY, I.F.S (Retd)
(15.01.1929 – 22.05.2017)



With a deep sense of sorrow and profound grief we record the death of Sri. Hirekuduru Rajagopal Shetty, I.F.S (Retd. from Tamil Nadu Cadre) on 22-05-2017. He was 88.

Mr. Shetty was a beloved Instructor and a guide who shaped the future of thousands of Forest Officers trained in the Southern Forest Rangers College, Coimbatore for a decade between 1963 and 1973.

Sri H. Rajagopal Shetty was born on 15th January, 1929 to Sri H Kotiyanna Shetty and Smt. Bhagirathi Shetty at Shiroor, South Canara District in Mysore State as a 4th child among the 7 children born to them. He did his schooling in Kundapura Board High School in Kundapura and pursued his College Education in St. Aloysius College at Mangalore and passed his B.A; degree.

He was selected for appointment as Forest Ranger and deputed for training in 1949-51 Rangers Course, in Madras Forest College, Coimbatore. After successful completion of training he was posted as Forest Range Officer, Cherla Range of the then East Godavari District in Composite Madras State.

He was married to Mrs. Prema in the year 1951. They are blessed with 2 Sons, Mr. Deepak Shetty who is a Practicing Chartered Accountant at Bengaluru and Dr. Pradeep Shetty, D.M; is a Cardiologist. Their 2 Daughters are Mrs. Roshan Rai married to Mr. Ajit Rai, M.A; B.L a Businessman and Mrs. Kiran Shetty married to Mr. Dinesh Shetty, BE; an Industrialist and all are well settled. He is also blessed with 8 Grand Children.

Mr. Rajagopal Shetty worked as Forest Range officer

at Masingudi and Ootacamund etc. in Madras State and subsequently he worked as Lecturer in Forestry in Southern Forest Rangers College, Coimbatore.

After his repatriation from the Forest College to his parent State Tamil Nadu, he worked as District Forest Officer, Survey of Forest Resources, Madras, Forest Working Plan Officer, Salem, District Forest Officer, Cuddalore, South Arcot District. Divisional Forest Officer, Social Forestry, Vellore, North Arcot District Soil Conservation Officer, Madras. During 1976 he was promoted to IFS and Super Time Scale of I.F.S in 1983. He worked as Conservator of Forests in Ooty and Tirunelveli Circles. He retired on superannuation in the year 1987 and till his passing away he was leading an active life and working in providing Solar Fencing to the Forest Departments of different States and Farmers for protecting the farm lands and villages from the straying of Wild animals through his Firm 'Suraksha Energizers'. His wife Mrs. Prema Shetty predeceased him during the year 2012.

He leaves behind his two sons, two daughters, eight grandchildren and relatives to mourn his loss besides a host of his students whose professional knowledge was sculptured and sharpened by him, and who consider him a 'Torch Bearer', He was loved, liked and respected by all his Trainees in SFRC, irrespective of their States and Countries, and his colleagues and subordinates who worked with him and all his friends who came in contact with him. He was attending the SFRC Alumni Meets regularly and was a source of inspiration to the participants. We express our heartfelt condolences to the bereaved family members. **May God provide his Noble Soul Rest and Peace in his Eternal Abode**

V.S.S.B



ANDHRA PRADESH 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.
- Largest grower of about 29,640 Ha of Eucalyptus Clonal Plantations in the country and is harvesting about 2.50 Lakh MTs of Pulpwood every year. Besides this, it has Bamboo, Coffee and Teak plantations over 12,000 Ha.
- The corporation has bagged awards “ **Flavour of India- Fine cup awards** ” for producing quality coffee during the years 2003, 2005, 2007 to 2015.

Plant A Sapling And Protect The Environment

Vice Chairman & Managing Director,
A.P. Forest Development Corporation Ltd.,
3rd Floor, H.No. 5-9-22/108, Adarshnagar Colony, Opp. New MLA Quarters, Hyderabad – 500063.
Telephone Nos. 040-23394392/23319503/23392776, Fax: 040-23320032
Website: <http://apfdc.gov.in> Email: vcmd_apfdc@yahoo.co.in

INDONET PLASTIC TREE GUARD

(Do it yourself)



Cable Tie

Name plate

INDONET Tree Guard is manufactured using high quality material.

These quality ranges of Tree Guard are designed in a way so that it can be prepared easily by Do It Yourself & also it can be installed without any kind of support / Self Standing Tree Guard.

This plastic Tree Guard is widely used for protection of small / young tree plants from animals & other unwanted harms.

Advantages

- It doesn't require any type of support like metal fabrication or bamboos
- Very reasonable in price compared to other type of Tree Guard
- Attractive look & Reusable
- Low maintenance
- U.V Stabilized & Long Lasting

Clientele

Recently we have supplied this type of Tree Guards to:

- Telangana • Andhra Pradesh • Maharashtra • Odisha
- Gujarat State in various Municipalities • Collector Offices
- Forest Department.

NGOs & Amp: Companies for their CSR activity like:

- Singareni Collieries Co. Ltd. • Andhra Mineral Development Corporation • Aurobindo Pharma • Mylan Laboratories • ACME Cleantech Solutions (P)Ltd
- Dilip Buildcon Ltd • Welspun India Ltd etc.

Available Sizes:

Specifications				Accessories
Diameter	Height	Cut sheet Size	Colour	Cable Tie
375 mm	6 feet	4 feet x 6 feet	Green	18 Nos.
375 mm	5 feet	4 feet x 5 feet	Green	16 Nos.
475 mm	6 feet	5 feet x 6 feet	Green	18 Nos.
475 mm	5 feet	5 feet x 6 feet	Green	16 Nos.

INDONET
PLASTIC NETTING

Manufactured by
Indonet Plastic Industries
(ISO 9001 :2008 Certified)

Manufacturing Units

Unit-1: Shed No. C1B-223 | **Unit-2:** Shed No. 243/3&4
GIDC Industrial Estate, Waghodia - 391 760,
Vadodara, Gujarat, India

Contact No.: +91 99744 08727 | 98250 82727
Email: sales@indonet.in, indonet2007@yahoo.in
Web: www.indonet.in, www.tree-guard.in

BOOK POST

Registered with RNI R.No. Apeng/2002.2185
Postal Regn. No.LII/RNP/HD/1154/2015-17

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: 26-06-2017 Total pages 60 Date of Dispatch : 4th or 5th of every month