

The meanings of freedom

The 60th Independence Day brings an occasion to ponder over the past and think about the future. Apart from the patriotic fervour attached to the day, it also symbolizes the freedom that our great and vibrant democracy provides to each citizen. Let us resolve to re-dedicate ourselves for the growth and development of our great nation on this Independence Day.

C. Gouridasan Nair

Freedom is a many hued concept. To the child, it is the freedom from parental tyranny. To the adult, it is the freedom to speak, move, work, play and organise. To the dalit, it is the freedom of mobility, both spatial and sociological. To the starving, it is the freedom to remain free from want. As the nation completes 60 years of independent existence, the whole gamut of meanings one associates with the concept of freedom cannot but come to the fore in stark terms and stare one in the face.

The levels and layers where freedom as a concept operates are as complex and problematic as the diverse ways in which it impinges on lives of millions living in this country. Times were when there was an uncritical acceptance of independence from colonial yoke as a glorious changeover from the old order. That was the period of euphoria when anybody who suspected the content of independence from British rule was looked upon as unpatriotic. Today, the continuities from the colonial in terms of social structuring, economic organisation and political culture are far too evident to be missed by anyone with a discerning eye. More important, there is a new realisation about the possibility of several 'unfreedoms' gaining currency within an independent, democratic and socialist State and the political freedom itself getting eroded with shift in the global economic dynamics.

Has India done badly after all? Certainly not. The country has, thanks to the much-reviled Nehruvian economic strategies, created strong fundamentals in the economy for the new political elite to tinker with it and alter it structurally. Times are such that Leftists now rue their trenchant criticism of the Nehruvian model during the 1950s to the 70s and the Right is gleeful about the failure of what would have been an alternative to the free enterprise path to global economic glory. That is one place where continuities of the post-independent

nation are getting disrupted and a possible throwback to economic subservience, though camouflaged by jargons of the neo-liberal economic agenda, hits the eye.

Many are inclined to see India as the next economic powerhouse. And it is as though almost every second policy initiative is framed in this country today to meet the challenge that China would pose to India on a future date. The country has travelled far from 1947. But, sadly, a large majority



of its population still live in acute poverty and deprivation. The Nehruvian economic paradigm has hardly helped them for want of such fundamental initiatives as land reforms and decentralisation of powers. The land owning classes have ensured that their interests are well protected.

The manufacturing industries have mostly survived the vagaries of the changing times, despite the persistent pressure on the 'old economy' industries. Traditional industries have mostly fallen by the wayside and the marginal farmers lost out in the global race to secure access to new markets. The farm worker has been reduced to penury and, in many places, do not have any other option but to join the ranks of those choosing to take their lives rather than live a life of abject misery. The public sector has largely failed the nation thanks to political interference, bureaucratic

ineptitude and poor work culture.

On the brighter side, there have been initiatives in the sphere of science and technology that have put India on par with the best in the business elsewhere. The progress that India has made in the realm of space science is the envy of many advanced nations. There are also some other unsung brighter aspects to the Indian economy like its well-grounded banking system and a strong Central Bank. The country is armed to the teeth to take on any comers and the 'Buddha has smiled' twice to leave the nation on an almost jingoistic high. The country now has a booming middle class ready to guzzle all the fossil fuel that Mother Earth can provide us and buy up all the creature comforts and gadgetry that world produces today. Barring the 'Left block', there is nothing to stop Wal Mart and many of its ilk from entering the retail sector in India.

It is a case of winner taking it all in India today. And the winners are invariably those who hold the purse strings. Voices of dissent don't even find much mention unless there is an Arudhati Roy to add a dash of celebrity to it. Suicide by farmers in their hundreds shock none. Sectarian violence and religious fundamentalism are on the rise, but their root causes are never addressed. Girl children are killed at birth or as brides, but life goes on untrammelled by all that. With a First World media reports on a Third World nation, illusions and reality merge to generate a kind of hyper reality that has nothing to do with lived experiences of people in large parts of the country. But, amidst all this pain and agony, life springs eternal in India. With every rain, with each new child birth, with each cricket match won abroad or on home ground, with each little upward movement of the family... Amidst sorrows unlimited in each individual life, amidst bomb explosions that rip apart lives and families, amidst disturbing tidings of mass killings from the neighbourhood, amidst tales of genocides from shores afar...

An Act for Equity and Excellence



The widespread debate on the Kerala Professional Colleges Act (KPC Act), 2006 is a measure of the public concern for education in the State.

M.A. Baby, Minister for Education expresses his views on the topic.

M.A. Baby

The widespread debate on the Kerala Professional Colleges Act (KPC Act), 2006 is a measure of the public concern for education in the State. Kerala is unique in this respect, when compared to the rest of the country. Such universal interest in educational issues is the result of the egalitarian ethos nourished during the past two hundred years in this part of the country. Amartya Sen has traced the history of this laudable achievement to the contributions made by enlightened rulers of the pre-independence era, Christian missionaries, Hindu Renaissance

movements and Left Wing politics in the State. The KPC Act is a humble attempt to carry forward the long tradition of promoting equity in education in the State.

The Act also aims at promoting excellence in professional education. A concern for excellence has become paramount in the emerging Knowledge Society. The characteristic feature of this society is that knowledge has become the most crucial component of production—more important than physical or monetary capital. Economic progress today is dependant primarily upon the progress in the accumulation and use of knowledge

capital. A diffusion of such capital among maximum number of people is the most effective means to ensure social justice in the distribution of economic opportunities and promote inclusive national development.

The Left Democratic Front (LDF) had promised in its manifesto with the above understanding to ensure merit and social justice in unaided professional education .. It was not easy fulfilling the promise. In the absence of a comprehensive Central legislation, the State had to undertake the responsibility of framing the law to regulate un-aided professional education. In doing

this, the Government had to act within the framework of the directives laid down by the Supreme Court. The sky-high aspirations of the people who voted the LDF to power had also to be addressed. At the same time, the Government could not ignore the genuine problems of the managements who contributed to the expansion and modernization of professional education. However, the sharks in the field had to be weeded out. The Government was compelled to perform a delicate balancing act, which would give maximum satisfaction to the people without causing undue hardships to the managements. The Government had to tune the entrepreneurship of the managements to the educational needs of the students. In doing this, the Government made use of the positive provisions in various Supreme Court judgments and 93rd Constitutional amendment to arrive at a compromise formula for promoting equity and excellence in unaided professional education.

It is heartening to know that the Act has by and large been welcomed by the people. A deliberate effort has been made in the Act to allocate the available seats among different sections of the people, so that no one is left out in the scramble for opportunities. The Act has given effect to the 93rd constitutional amendment to give

35 per cent of the sanctioned seats to the traditionally deprived sections of society. The concerns of the physically challenged and the economically backward sections not covered under SC/ST and SEBC have also been addressed by setting apart three per cent and 12% of the total seats for them. Since such reservation is not constitutionally mandated, it can be implemented only with the consent of the managements concerned. The Government has no doubts that the managements would cooperate. None of the managements have so far disagreed with the arrangement.

The concept of excellence which the Act envisages includes not only academic excellence, but excellence in sports and culture as well. Two per cent of the seats have been set apart for students who have made outstanding contributions in the fields of culture/sports. While the minimum guaranteed in open merit category is only 18%, in actual practice it is bound to be much more as the spill over from other categories will enrich the open merit category. The demands of the managements have been conceded in 30% of the seats, 15% as privilege seats and 15% as NRI seats. The crocodile tears shed over the fees fixed in NRI seats have no substance. The openings for NRIs are not confined to NRI quota alone. NRIs are as free as any other segment to claim the other 85% of the seats. The

15% is the special quota reserved for them alone, of course with the rider that those who want to have the privilege shall also provide for their less fortunate brethren at home or even abroad.

It is really strange that sections in the United Democratic Front (UDF) find fault with the provisions in the Act dealing with free ship and seat allotment to accommodate different sections in society. They accuse that merit has been given a go-by despite the fact that 85% of the admissions are made on merit basis from the Common Entrance Test (CET) conducted by the State Commissioner for Entrance Examinations. Unfortunately, the critics are unable to appreciate merit beyond the confines of open merit. The concept of interse merit to identify the meritorious among the socially, educationally and economically backward sections of the people is anathema to this highbrow meritocracy. So is the concept of cross-subsidy of the poor by the rich. They attack the scheme of freeship in the Act saying that the Supreme Court had opposed it, without understanding that the court was opposed to the Unnikrishnan Scheme because it had resulted in the poor subsidizing the rich.

They have little respect even for their leader Arjun Singh who had written to Shri Oommen Chandy, then Chief Minister of the state, urging him to implement the 93rd



constitutional amendment which empowers the State governments to do everything for the educational advancement of the downtrodden, including (1) reservation of seats (2) differential fees structure and (3) separate admission procedure.

It is true that some managements are crying wolf against the arrangement for providing free ship to 50% of the students. As a matter of fact, it is the Government that provides free ship for the SC/ST irrespective of any income limit and irrespective of their admission in the reservation (10%) or merit quota. 40% of the admitted students with annual income below 2.5 lakhs will be selected for free ship on merit basis from the Non-NRI, Non-Privilege, and Non-SC/ST segments. It is only those who have not properly understood the provisions of the Act who argue that there is no free ship for students coming under the merit quota. In fact, all students in the open merit quota with annual family income less than 2.5 lakhs are most likely to get free ship. The amount required for free ship for 40% of the students will be contributed by 50% of the students who constitute the comparatively richer segment in the student population. For them, it will be a two-tier fee structure, the maximum being realized from the NRI segment.

Most of the opposition to the Act now comes from the traditional leadership of the minorities. Ironically, when the Bill was first introduced in the Assembly, it was dubbed as a pro-minority legislation. Now it is accused of being an anti-minority Act. One can only say that the wheel has come full circle. As a matter of fact, the Act is neither pro-minority nor anti-minority. It is only pro people. The leadership on either side of the minority divide is opposing the Act on account of a certain communication gap. They have failed to grasp the implications of the evolving constitutional law on minority rights.

The full implication of the judgment in TMA Pai Foundation Case (2002) on minority rights is yet to be realized. Pai Foundation has rightly classified minority rights as federal, secular and equitable rights. Since Pai Foundation, the concept of national minorities has given way to the concept of state minorities. A distinction has been drawn between the criteria for

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identification of minorities and minority educational institutions. The question whether an educational institution established and maintained by a religious or linguistic minority will automatically qualify for status as a minority institution has been left open by TMA Pai. At the same time, the basic principles for the award of minority status have been spelt out in no uncertain terms in the judgment. Subsequent judgments have only reinforced the Pai view.

Minority rights have been held to be a part and parcel of the rights to equality and secularism. They are protective rights and not absolute rights. Positive discrimination is justified when special protection is required to ensure equality between numerical minority and numerical majority. Special protection will amount to reverse discrimination when the minority has already achieved equality with the majority, proportionate to its demographic strength vis-à-vis non-minority. In BAL Patil & another (2005), Supreme Court has further clarified that statistical data produced to show that a community is numerically a minority cannot be the sole criteria for the award of minority status. The socio-economic position of the community is another important criterion. The higher on the socio-economic ladder, the lower the chances for conferring special protective cover of minority status. In Inamdar Judgment (2005), a further classification in respect of minority rights has been made with reference to the stage of education. Education at school level is culture-specific and location-specific. On the contrary, education beyond graduate level has no special minority attribute. It is national

wealth. What counts is merit and merit alone. Therefore uniform regulations can be made with a view to achieving excellence in educational institutions, irrespective of whether it is a minority or non-minority institution.

The UDF has been quite dismissive in its approach to minorities. On 3-2-2005, the UDF Government issued an order refusing minority status to eight institutions. The reasons assigned were the following: (1) The institutions applied for minority status only because they wanted to corner the management seats; (2) They have no commitment to the minorities which they claim to represent. The LDF acted with care and caution. The triple test in Section eight of the Act is intended to ensure protection of the minority where such protection is required. It also ensures that protection is not extended to minorities which are already adequately protected so that there will be no reverse discrimination in the application of minority rights. Test one relates to the demographic status of the community in question. Those below 50% are to be treated as minority communities. The second and third tests quantify the educational status of the minority to assess whether the community is educationally deprived enough vis-à-vis the non-minority community in the State to justify special protection. The proportionate representation of the minority community in the ownership of institutions of higher learning and opportunities available to the minority students for higher learning is statistically ascertained. The test is fair, transparent and objective. If the minority has proportionately greater representation in comparison with the non-minority, additional protection would amount to reverse discrimination. Statistics is the key to the understanding of the minority issue. It is unfortunate that statistics has few takers.

The Government is fully aware of the complexity of the issues involved. It has been and still is open to debates and discussions and is willing to accommodate the genuine concerns of all, be it that of students, or parents or managements. At the same time, the Government is equally committed to the implementation of the Act stamping out all attacks against it, from whatever corners it might come. Nothing will prevent the LDF from redeeming its solemn promise to the people.

Salient features of the **KPC Act, 2006**

The Kerala Professional Colleges Act, 2006 is the decision of the Government to ensure merit and social justice in higher education. The legislation protects reservations and provision of admissions for economically and socially backward sections in self financing institutions.

The Act serves as a prototype for all future legislations on ensuring social justice in private self financing institutions.

According to the Act, 85% of the total seats must be filled on the basis of the merit list prepared by the Commissioner of Entrance Examinations. Fifty per cent of the total seats are reserved for socially and economically backward classes and freeships would be given to all students come under the reservation category. Ten per cent of the total seats are for the SC/STs, 25 per cent for the socially and educationally backward classes, three per cent for the physically challenged, 12 per cent for economically backward among other communities who do not come under other categories.



An Act to provide for prohibition of capitation fee, regulation of admission, fixation of non-exploitative fee, allotment of seats to Scheduled Castes, Scheduled Tribes and other socially and economically backward classes and other measures to ensure equity and excellence in professional education and for matters connected therewith or incidental thereto.

In the light of the past experiences of mal-administration of the entrance test held by the Consortium/Association of Private Professional Colleges in the State, all institutions of the same or similar type, whether minority or non-minority shall be required to fill their seats on the basis of merit determined through a single common entrance test followed by centralized counselling by the State Commissioner for Entrance Examinations.

To ensure equal treatment between the majority and the minority institutions and no one type or category of institution should be disfavoured or, for that matter, receive more favourable treatment than another, since laws of the land, including rules and regulations, must apply equally to the majority institutions as well as to the minority institutions.

The act envisages to apply the principle of using the excess funds generated from Non-Resident Indian seats for benefiting students such as students from economically weaker sections of society as enunciated by the Supreme Court and to set up a Higher Education Scholarship Fund for providing scholarship to the socially and economically weaker students.

Method of admission in Professional Colleges or Institutions- Admission of students in all professional colleges or institutions to all seats except Non-Resident Indian seats shall be made through Common Entrance Test conducted by the State followed by centralised counselling through a single window system in the order of merit by the State Commissioner for Entrance Examinations.

The Government shall constitute an Admission Supervisory Committee to supervise and guide the process of admission of students to unaided professional colleges or institutions, consisting of a retired Judge of the Supreme Court or a High Court as Chairperson.

The Admission Supervisory Committee may hear complaints with regard to admission in contravention of the provisions contained herein. If the Admission Supervisory Committee after enquiry finds that there has been any violation of the provisions for admission on the part of the unaided professional colleges or institutions, it shall make a p p p r o p r i a t e recommendation to the Government for imposing a fine upto rupees ten lakhs and the Government may on receipt of such recommendation, fix the fine and collect the same in the case of each such violation or any other course of action as it deems fit and the amount so fixed together with interest thereon shall be recovered as if it were an arrear of public revenue due on land. The Admission Supervisory Committee may also declare admission made in respect of any

or all seats in a particular college or institution to be de-hors merit and therefore invalid and communicate the same to the concerned University.

Any unaided professional college or institution has violated any of the provisions of this Act, recommend to the University or statutory body for withdrawal of the affiliation or recognition of such college or institution or any other course of action it deems fit.

Collection of capitation fee prohibited- No capitation fee shall be collected by or on behalf of an unaided professional college or institution or by any person who is in charge of or is responsible for the management of such college or institution.

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The Act serves as a prototype for all future legislations on ensuring social justice in private self financing institutions. According to the Act, 85% of the total seats must be filled on the basis of the merit list prepared by the Commissioner of Entrance Examinations.

Admission Supervisory Committee on receipt of any complaint of such college or institution has violated the provisions of the bill. The Admission Supervisory Committee may after due enquiry recommend to the Government for taking penal action against the management.

Fee Regulatory Committee.— The Government shall constitute a Committee called the Fee Regulatory Committee for determination of the fee for admission to the unaided professional colleges or institutions in that academic year and shall not be revised till the completion of course in the said college or institution.

The fee determined by the Committee shall be binding on the unaided professional college or institution for a period of three years. The fee so determined shall be applicable to a candidate who is admitted to a college or institution. In that academic year and shall not be revised till completion of course in

the said college or institution.

Factors for determination of fee- the obligation on the part of all unaided professional colleges or institutions to provide freeship to a minimum of fifty per cent of the students admitted and the additional expenses, if any, required for the same over and above the excess funds generated from Non-Resident Indians, charity on the part of managements and contribution by the Government for providing freeship for scheduled caste or scheduled tribe students, the nature of professional course, the available infrastructure, the expenditure on administration and maintenance, a reasonable surplus required for the growth and development of the college, and any other factor as the committee may deem fit.

Determining factors for according recognition and conferring status as un-aided minority professional college or institution- A minority unaided professional college or institution established and maintained by any linguistic or religious minority shall be accorded recognition and conferred status as an un-aided minority professional college or institution only if it satisfies all the following conditions of demographic equivalence between the minority community to which the college belongs and the non-minority community of the State, taken as a single unit, namely:

(a) the population of the linguistic or religious minority community in the State which runs the professional college or institution shall be lesser than fifty per cent of the total population of the State.

(b) the number of professional colleges or institutions run by the linguistic or religious minority community in the State to which the college or institution belongs shall be proportionately lesser than the number of professional colleges or institutions run by the non-minority community in the State.

(c) the number of students belonging to the linguistic or religious minority community to which the college or institution belongs undergoing professional education in all professional colleges or institutions in the State shall be proportionately lesser than the number of students belonging to the non-minority community undergoing professional education

in all professional colleges or institutions in the State.

In an unaided professional college or institution belonging to both minority and non-minority, upto fifteen per cent of the total number of sanctioned seats may be filled by candidates under the category of Non-Resident Indian seats. Seats not filled up under Non-Resident Indian seats shall be filled up from general merits seats.

The fee regulation committee shall fix the fee for non resident Indian seats and the amount so collected over and above the fee fixed for other students in the college or institution in such seats shall be utilised for providing freeships to socially and economically backward students.

Upto fifteen per cent of the total number of sanctioned seats may be filled by candidates under the category of privilege seats in the manner as may be prescribed. Seats not filled up under privilege seats shall be filled up from general merit seats.

Eighteen per cent of the total number of sanctioned seats shall be filled up from general merit seats.

Two per cent of the total number of sanctioned seats shall be filled up by students who have made outstanding contribution in the field of culture or sports, on the basis of criteria as may be prescribed. Seats not so filled up shall be filled up from general merit seats.

Where students of specified categories surrender the seats after selection, the same shall be filled by the candidates belonging to the same category from the merit list of the Common Entrance Test.

Where the seats specified for the Scheduled Castes or Scheduled Tribes and other Socially and Educationally Backward Classes are left unfilled due to non-availability of candidates from the same category, the seats shall be filled up by rotation from other categories within the specified seats as may be prescribed. Provided that any spill over thereafter arising

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shall be filled up from the general merit seats.

A minority unaided professional college or institution shall admit not less than fifty per cent of the students from within the State from the minority community to which the college or institution belongs. Fifty per cent of such seats may be filled up from among the socially and economically backward sections from within the minority community on merit-cum- means basis with the consent of the minority educational college or institution as prescribed and the rest in the order of merit in accordance with *interse* merit, both from the rank list prepared by the Commissioner for Entrance Examinations, based on the common application prescribed in the appropriate prospectus published by the State Government.

A minority unaided professional college or institution may surrender upto eighteen per cent of the seats to be filled up by the Commissioner for Entrance Examinations from the specified seats and general merit seats in equal proportion. The first portion shall be filled up on the basis of merit-cum-means basis as prescribed. The second portion shall be filled up from the general merit seats. Any seats not surrendered shall also be treated as minority seats and filled up as such.

A minority unaided professional college or institution may surrender upto two per cent of the total number of sanctioned seats to be filled up by students who have made outstanding contribution in the field of culture or sports, on the basis of criteria as may be prescribed. Seats not so filled up shall be filled up from general merit seats.

Invalidation of admissions- Any admission made in violation of the provisions of this Act or the rules made thereunder shall be invalid.

Higher Education Scholarship Fund- The Government may by notification in the Gazette constitute a Fund called the Higher Education Scholarship Fund for providing scholarship to socially

and economically backward students admitted in professional colleges or institutions on merit-cum means basis.

The corpus of the fund shall be the contribution from the Government, the amount of fine levied under this Act and the funds raised from any other source including Non-Resident Indians.

The fund shall be administered by an Administrator appointed by the Government. The administration of the fund including the corpus shall be in such manner as may be prescribed.

The accounts of the fund shall be audited annually by the Accountant General.

The Administrator shall before such date, in such form and at such interval as may be prescribed submit a report to the Government and the Government shall cause a copy of such report to be laid before the Legislative Assembly.

Protection of action taken in good faith- No suit, prosecution or other legal proceedings shall lie against any member of the Admission Supervisory Committee or Fee Regulatory Committee or any other officer of the Government for anything which is done in good faith or intended to be done in good faith under this Act.

Power of the Government to issue directions- The Government may give such directions to any professional college or institution as in its opinion are necessary or expedient for carrying out the purposes of this Act or give effect to any of the provisions contained therein or in any rules or orders made thereunder and the management of the college or institution shall comply with every such direction.

The Government may also give such directions to the officers or authorities under its control which in its opinion are necessary or expedient for carrying out the purposes of this Act.

Penalties- Whoever contravenes the provisions of this Act or the rules made thereunder shall, on conviction be punishable with imprisonment for a term which shall not be less than one year but which may extend to three years and with fine which shall not be less than rupees fifty lakhs. ■

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Forests A Different approach

Prof. M.K. Prasad

Forests need a different approach in our understanding and management. It deserves to be considered as an ecosystem and an insurance of agriculture.

It is high time that we clear the ambiguities existing in matters like definition, control, management, conservation and future.

There is no simple agreed definition of “forest” due to varying climatic, social, economic and historic conditions. The situation is complicated by the fact that for many governments “forest” denotes a legal classification of areas that may or may not actually have tree cover. I do not find a definition of forest in The Kerala Forest Act, 1961. The Supreme Court (1996) held that the word “forest” must be understood according to the dictionary meaning. However, the FAO definition is mainly followed in global treatments of forest. This definition covers ecosystems that are

dominated by trees (defined as perennial woody plants taller than 5 meters at maturity), when the tree crown cover (or equivalent stocking level) exceeds 10% and the area is larger than 0.5 hectares. The term includes forest used for production, protection, multiple use, or conservation, as well as forest stands on agricultural lands (such as windbreaks and shelterbelts of trees with a width of more than 20 meters) and plantations of different types. It also includes both naturally regulating and planted forests. The term excludes stands of trees established primarily for agricultural production, such as fruit tree plantations, and trees planted in agroforestry systems (but rubber and cork oak stands are included). Billions of trees outside the forest in cities, along roads and rivers, on farms, and so on are not included in the two categories just described. The threshold of 10% is crucial in this definition.

The total area of global forests is estimated at 4356 million hectares or about

30% of the world’s land area. India has a recorded forest area of 76.52 million hectares or 23.28% of the country’s geographical area. The forests of Kerala state





Over 45000 species of plants are found in India. The vascular flora, which form the conspicuous vegetation cover itself comprise about 15000 species. A special feature of India's forests is the occurrence of bamboo as under storey to trees. In total 133 species of bamboo occur. There are 350 species of mammals, 1200 species of birds, and more than 20000 species of insects.

with different natural vegetation types, cover an area of 769900 hecatres, in addition to about 186200 hectares of forest plantations.

Services provided by forests are many.

The 1992 UN Forest Principles identified the multifunctional and multiservice purpose of the world's forests: " Forest resources and forest lands shall be managed

and used sustainably to fulfill social, economic, ecological, cultural and spiritual needs of present and future generations". The services provided by forests include provisioning, regulating, cultural and supporting services. The major classes of forest services are dealt with here.

Biodiversity

Forests are an important repository of terrestrial biodiversity, across three important dimensions: structural diversity (such as areas of forests, natural and protected forests, species mixtures and age structure), compositional diversity (numbers of total floral/faunal species, for example, and endangered species), and functional diversity (the impact of major processes and natural and human induced disturbances).

Tropical forests cover less than 10% of Earth's land area but harbor between 50% and 90% of Earth's terrestrial species. Other types of forests are not as species-rich as tropical ones but are relatively species-rich ecosystems within their own contexts. Considerable information on forest related biodiversity has become available over the past decade.

Two-thirds of 136 ecologically distinct terrestrial regions identified as outstanding examples of biodiversity are located in forest regions, according to WWF. Similarly Birdlife International identified 218 areas containing 2 or more species of birds with restricted ranges. 83% of these 281 areas occur in forests. Of 234 centers of plant diversity identified by IUCN and WWF,



more than 70% are found in forests.

India is rich in biodiversity at all levels – the gene, the species, and the ecosystem. India is one of the 12 mega biodiversity countries in the world.

In India over 45000 species of plants occur. The vascular flora, which form the conspicuous vegetation cover itself comprises about 15000 species. A special feature of India's forests is the occurrence of bamboo as under storey to trees. In total 133 species of bamboo occur. There are 350 species of mammals, 1200 species of birds, and more than 20000 species of insects.

The major forest types represented in Kerala include the dry deciduous, semi-evergreen, evergreen and shola forests. Within these four major forest types are several sub-types, forest plantation crops like tea, plantations of timber and pulp wood species like teak, eucalyptus, acacias, pines etc. engaging an area of 186200 hectares. There are more than 4500 wild species of flowering plants of which above 1500 taxa are endemic. There is also equally rich faunal wealth. There are 102 species of mammals, 476 species of birds, 169 species of reptiles, 89 species of amphibians and 202 species of freshwater fishes.

Forest decline threatens biodiversity at all levels. IUCN estimates that 12.5 % of the world's species of plants, 44% of birds, 57% of amphibians, 87% of reptiles, and 75% of mammals are threatened by decline of forests.

The World List of Threatened Trees (Oldfield et al 1998) indicates that more than 8000 tree species (9% of the total) are currently threatened with extinction.

It is difficult to say with precision the extent to which forest habitat loss results in



population or species extinction, because our knowledge of forest biodiversity is so incomplete. Nonetheless, it is clear that deforestation, particularly in the tropics, is having extremely negative impacts on biodiversity.

In the state of Kerala and elsewhere the driving forces behind decline in biodiversity have been identified to be

- conversion of forest areas for non-forestry purposes,
- encroachments and other illegal occupations,
- tourism and pilgrimage,
- invasion of exotic weeds,
- poor regeneration of indigenous species,
- pollution by pesticides/insecticides/fertilizers,
- natural calamities and
- over-exploitation.

Soil and Water Protection

In many regions, forest is a major stabilizing component of natural landscapes,



providing protection of soil and water, house-holds, and fields and reducing or preventing floods and landslides. Levels of soil erosion in the tropics may be 10-20 times higher on areas cleared of forests, due to construction of roads, and log landings during mechanical logging, than in undisturbed natural forests, and this is particularly the case in mountainous and other areas characterized by fragile soils.

Regulation of hydrological cycles and processes is one of the important services

provided by forests at large scales. Globally, forests' hydrological functions have been claimed to include increasing precipitation and decreasing evaporation; regulating the total and redistribution of surface and belowground runoff; smoothing out the seasonal course of river discharges; increasing total river runoff; protecting landscapes against soil erosion and landslides, in particular in mountains; preventing and mitigating the consequences of floods; maintaining water quality; protecting river banks against destruction; and preventing siltation of reservoirs. It is unfortunate that many of our development agencies totally ignore this service by forest ecosystems.

Fiber, Fuel, and Non-wood Forest Products

Wood is currently the most economically important forest product. During 1996-2000, about 3.3 billion cubic meters of wood were harvested annually from the world's forests, and round-wood production has steadily increased by approximately 0.8% per year.

Fuel wood meets about 7% of energy demand worldwide, including about 15% in developing countries and 2% in industrial countries. Globally, about 1.8 billion cubic meters of wood is used annually for fuel. Wood fuel constitutes about 80% of the total in developing countries, where about one third of the total forest plantations were established primarily for that purpose. More than 60% of these plantations are in Asia and 25% in Latin America.

Non-wood forest products (NWFP) include a tremendous diversity of items - some of which enter formal markets, but many that do not. They can be classified in a number of broad number of categories according to their end use; edible products, fodder for domestic animals, medicines, perfumes and cosmetics, colorants, ornamentals, utensils, handicrafts, and construction materials, and exudates like gums, resins, and latex. Overall, they play an important role in the daily life and well-being of hundreds of millions of people world wide as well as in the national economies of many countries.

NWFP are extensively extracted from Indian forests and their role in rural and forest economies is immense. However, the long term ecological sustainability of NWFP extraction with respect to resource

populations, dependent animal species and ecosystem functioning has remained largely unexamined. There is a glaring scarcity of systematic research on ecological aspects of NWFP extraction in India. From a few available studies, it appears that species differ in their responses to harvest depending on the plant part extracted, natural history attributes and harvesting techniques. However, regeneration and population densities of some NWFP species are reported to be adversely affected by extraction. Such adverse effects are due to a combination of harvests, damaging harvesting practices and accompanying anthropogenic disturbances. The available literature also indicates a disturbing trend of ecosystem simplification due to intensive forest use, including extraction of NWFP, which may gradually lead to the weeding out of valuable plant species from Indian forests.

Carbon Sequestration

Forests play an important role in the global carbon cycle and consequently in regulating the global climate system. Two main features of forests define this role. First, the world's forests accumulate a major part of the planet's terrestrial ecosystem carbon. Second, forests and wetlands are the two major land cover classes that are able to provide long-term sequestration of carbon. Accumulation of carbon in wood and soils results in a more significant share of total net primary productivity being stored in the long term than in other land cover classes and can represent as much as 10 – 15% of net primary productivity.

Deforestation in the tropics has the greatest impact on the carbon cycle of any land use and land cover change. It is reported that land use change (mostly deforestation) is the source of 1.6 +/- 0.8 billion tons of carbon per year.

Recently disturbed and regenerated forests usually lose carbon from both soil and remnant vegetation, whereas mature undisturbed forests maintain an overall neutral carbon balance. The rate of carbon sequestration depends upon age, site quality, species composition, and the style of forest management.

Sociocultural Values and Services

Forests are highly valued for a host of



social, cultural, and spiritual reasons. Forests and people have co-developed, with people shaping the physical nature of most forests (including those we today consider “natural”) and the forest, in turn, exerting a powerful influence over human cultures and spiritual beliefs. For many indigenous and traditional societies, forests are sacred and sometimes supernatural places, linked to both religious beliefs and the very identity of some communities and peoples. The widespread existence of “sacred groves” in many societies is a physical manifestation of this spiritual role and has contributed to forest conservation.

Forests provide spiritual and recreational

services to millions of people through forest-related tourism. Nature-based tourism has increased more rapidly than the general tourism market, evolving from a niche market to a mainstream element of global tourism.

Drivers of Change in Forest Ecosystems

Changes in forest conditions are the result of interactions among many factors – social, ecological, economic, climatic, and biophysical. Rapid population growth, political instability, market forces, institutional strengths and weakness, natural and human induced disturbances, and many other factors, may be important.

Biophysical factors, such as a region's history of landscape transformation, the high sensitivity of forest soils to machinery used for logging, or forest fires can also play a significant role.

Direct drivers of deforestation are human activities or immediate action at the local level, such as agricultural expansion, that originate from intended land use and directly affect forest cover. These direct drivers can be broadly categorized into those related to agricultural expansion, wood extraction, and infrastructure extension.

Indirect drivers of deforestation are fundamental social processes, such as human population dynamics or agricultural policies, that underpin the direct drivers and either operate at the local level or have an indirect impact from the national or global level. These indirect drivers fall into five broad categories: economic, policy and institutional, technological, cultural/sociopolitical, and demographic.

In summary, while it is possible to identify with some certainty the factors underlying deforestation in a general sense, it is very difficult to pinpoint a uniform set of drivers and their relative contributions that can be said to apply generally at a global or even regional level.

Human Well-being and Forests

Forests supply essential services to human well-being across the world. Human-forest interactions manifest themselves in many direct and indirect ways, each depending variously on the amount of forest, its condition, and its distribution over the landscape.

More than 1.7 billion people live in the 40 nations with critically low levels of forest cover, (India has 100 million forest dwellers) in many cases hindering prospects for sustainable development. This will triple by 2025 and 13 additional countries will experience forest resources scarcity. That is the prediction. Population



growth has drastically shrunk the forest-to-people ratio from 1.2 hectares per capita in 1960 to 0.6 hectares at present. This is also predicted to decline.

The expected decline in per capita availability of forests in developing countries generates additional problems for sustainable development.

In many parts of the developing world, direct harvesting of forest products by rural families contributes to more than 50% of total consumption and other household needs. This large group of people is particularly vulnerable to the negative impacts of declining forest cover.

Many forest settlements now suffer from unemployment and a lack of basic living conditions; subsistence farming, gathering mushrooms and wild berries and fruits, fishing, and poaching have become major sources for subsistence in many forest regions.

Improving the condition of forests and their contribution to human well-being is an important and urgent task, both nationally and internationally. Recent history, such as international efforts working with the Tropical Forestry Action Plan clearly shows both how difficult it is to achieve sustainable forest management in the contemporary world and that many problems remain to be solved in order to realize the potential benefits that forests have to offer. ■

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still included in the 11221 sq. kms. considered to be under forests.

Organisations like the Shasthra Sahitya Parishad opines that actual forest will only comprise of about half the governmental estimation. Under such circumstances, the urgent need is to measure and assess the actual land under forest cover and fence its boundaries for saving at least the remaining forests. Only when the actual situation becomes clear, will conservation efforts receive a new impetus and hence the government should find out the area of the existing forests and publicise it. Any action other than this, will be infructuous and in vain.

Measuring forestland is not an easy task. There are plenty of encroachments and fixing of boundaries is always a problem in encroached areas. Often, the opposition of the people, the reluctance of politicians to resist for fear of negative mandate, nature lovers who do not want a confrontation with public and on top of all these, the lack of motivation of government employees, make marking of forests boundaries a next to impossible task.

If it is one or two places that this exercise has to be undertaken, it could be

accomplished without much difficulty. Problematic places are many in number and hence postponing this exercise for *tomorrow and tomorrow* is most convenient for every body, and this is what is happening today.

It is possible that places without problems be marked first and then problem areas tackled with people's participation as per designs drawn out to meet the requirements of the specific area. Special studies are needed to handle problem areas. Some times each place would require its own specific remedial measures.

Land use pattern in our hills need an immediate rethinking. It is common knowledge that the best land use for hills is

forestry or tree crop. Unfortunately due to various reasons this is not happening in the state, especially in encroached forest land.

One of the ways to deal with these problem areas is to compel landholders to plant trees and permit them to harvest them. The present situation is that the encroachers have all freedom to cultivate any thing and every thing except trees. Tapioca, paddy, pepper, rubber, pineapple, plantain etc. he can cultivate any crop, but he cannot grow trees.

When grown trees are cut and sold, the forest department poses a hurdle. A condition stipulated while issuing title deeds is what puts the department in a fix. One condition is that all existing trees in the land and all trees that grow there will belong to the government. Enforcing this clause makes it impossible for the landowner to cut even the trees planted by him and to obtain passes for transporting them to other places. As a result, the landowner not only does not plant any trees, but also systematically uproots all saplings that sprout by itself.

Encroached lands are mostly slopes. Cultivation of annuals in the slopes poses a host of ecological problems like soil erosion, silting of dams etc. Instead of covertly

encouraging cultivation of annuals on these slopes, isn't cultivation of trees that need be overtly encouraged? Only planting of forest trees should be permitted on encroached lands.

Habitats that get relegated

Conservation of natural resources is one aspect that is either thrown to the winds or relegated to the background when handling developmental matters. Anything will bear neglect to a certain extent. But there is a limit. *Freedom, fraternity and equality* are not slogans for Man alone. These are considerations relevant for habitats too. When habitats do not get the consideration they deserve, even they might retort. It would be in the form of tragic calamities such as tsunami or spread of epidemics such as avian flu and SARs.

Among the habitats that get pushed to the second line for economic reasons, are mangroves and seashores. Was it not their revolt that led to destruction being sown on our coastal areas by the tsunami waves? These experiences prove that all habitats need to be given equal consideration. Another truth is that ignored habitats get destroyed. People who suffer most by the

destruction of habitats are the ones belonging to the lower strata of the society. Tsunami caused maximum loss and sufferings to hutment dwellers in the coastal areas.

When mangroves are destroyed for building housing colonies, industrial establishments or coconut plantations over them, prawns that spawn hundreds of young ones in the roots of mangroves, crabs, oysters and a host of micro-organisms get obliterated. It not only that rare micro-organisms get extinct, a lot of life styles also get affected and the poor fishermen lose their livelihood.

Afforestation outside forests

For strengthening forest conservation, production of forest produces outside the forest should be resorted to. Studies of the Kerala Forest Research Institute and other such bodies reveal that already 90% of timber and 95% of firewood requirements of the State are being met from outside the forests in private property and estates. But nobody is willing to give it the attention it deserves and this neglect is dragging the State to serious problems.

When it comes to agricultural





Though the panchayati raj act stipulates that social forestry is the responsibility of panchayats, no schemes in this regard are seen added in the development plans of any panchayat in the state. There should be a policy decision to plant miscellaneous trees in at least one third of the geographical area of a panchayat.

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plantation promotion programmes of the Central Government. This has created two repercussions;

Today, we have to depend on foreign countries for our timber requirements. At present 60 per cent of our urban and 25% of our rural timber requirements are met by imports. It is estimated that this depletes the state by Rs.500 crore every year. The irony is that, what has been earned in rubber plantations is being spent on timber imports.

The biodiversity that we loose and the resultant negative impacts on livelihoods and life styles is another matter of concern. In biodiversity, Kerala today is a green desert. Though there are plenty of green everywhere, they are the lushness of monoculture. Yes, the situation is *water, water every where but not a drop to drink!* Monoculture farming is adverse to the sustenance of bio-diversity.

The following are the main hurdles for afforestation outside forests today-

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A fear persists among people that if a particular place assumes the character of a natural forest by growing wild trees, the government will acquire that place on the guise that it is a natural forest or an ecologically sensitive area.

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issued for many lands for which title deeds were granted after 1947 and such lands, totaling to about two lakh hectares, still come under reserve forests. The title holder has no permission to grow and cut trees from this land. These title deeds also stipulate that all trees that are presently there (which are marked as government property) and all trees that sprout subsequently also, belong to government.

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For conserving the meager forests that are left in the state, boundaries should be fixed and conservation measures should be started with participation of the people. Compulsory planting of miscellaneous trees on encroached areas should be insisted upon and growing of forest trees outside forest areas should be encouraged. For this, changes have to be made in existing laws. For ensuring wide spread growing of forest trees, farmers have to be encouraged by amending land use and land reform laws as per the requirement of the times. ■

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Maneka Gandhi

In 1989 as Minister for Environment and Forests, my first action was to make the Coastal Zone Regulations which did not allow any building activity within 500 meters of the coastline. This was in pursuance of the desires of Indira Gandhi who had first mooted this idea.

Predictably, the hotel industry (and all those chemical and oil industries that wanted to be close to the sea so that they could quietly throw their effluents into it) leapt into action. They didn't care what damage they did to the coast as long as they could make money.

My reasoning based on the experience of thousands of scientists all over the world, was (a) if the sea came in a storm, it would destroy the buildings first, (b) by clearing all the sand dunes, mangroves, coral reefs in order to put up their buildings, the way was paved for the erosion of the land, (c) As the building took out water from the water table near the beach, this would like a hole in the underground which the seawater would come into fill. As soon as I demitted office, the hotel industry put a lot of "pressure" (which usually means it paid) on my successor and he made fun of this rule as being "anti-industry". The CRZ went down to 300, then 200, then it became optional and then it disappeared altogether. The Environment Ministers found it a cash cow and as they whittled down, they kept putting in mindless conditions to show the environmentalists that they meant well, like – if a sand dune has to be removed then the removing party will reconstruct it in an appropriate place. Something like removing Mt Everest

Coastal habitats such as mud flats, salt marshes, sandy beaches and sand dunes are valuable for wildlife. Dunes are an excellent natural flood barrier and natural filter for drinking water.



for producing high quality of seedlings.

Will you impose any restriction for felling trees like sandal wood or any other classified woods in private lands?

Already there are restrictions for felling sandal wood. The KPT Act 1986 has been amended last year by the previous Ministry. In that also the restrictions on felling of sandal trees in private land prevails. I think this condition has to continue for some more time for the protection of at least remaining few sandal forests. A new ordinance has been issued in order to protect the remaining tree wealth of the State.

What are the incentives going to introduce to encourage the tree planting in private lands?

In the above said ordinance we have included a schedule consisting of 20 species of trees which are allowed for, so to say, liberal usage. This definitely is an incentive for planting more and more trees.

Are you willing to bring any regulation towards reproduction, disposal of trees in private lands?

I am aware of the fact that to encourage tree farming in private land, lot of motivation to land owners is essential. Therefore, regulations on tree felling need to be reasonable. But this need to be done very carefully so that it will not result in rampant destruction of tree wealth.

Will the government take any steps to meet the demands of wood based industries and household purposes?

National Forest Policy 1988 stipulates that "as far as possible forest industry should raise the raw materials needed for meeting its own requirements, preferably by establishment of a direct relationship between the factory and the individuals who can grow the raw materials by supporting the individuals with inputs including credit, constant technical advice and finally harvesting and transport services". Kerala Forest Department will encourage tree farming vacant lands, wastelands and in private land through agro-forestry and farm forestry. The restrictions on cutting and transportation of trees will be removed in the case of small holdings.

What would be the nature of export and import policy?

Though Kerala is self sufficient in soft wood we are depending on imported timber for hard wood. It is estimated that foreign timber worth Rs. 500 crores is imported to Kerala annually. This has to be controlled by increasing local production. Export of value added soft wood, instead of raw wood need to be encouraged to protect State's interests. In the envisaged Forest Policy of Kerala this issue can also be addressed. ■

Mangroves

The Coastline Guard

to make a car park and then reconstructing it somewhere more “convenient”. Over the years, the coast started changing as the dunes and the mangroves disappeared to make way for roads and hotels and swimming pools. Industries came up and from the air you could see the water of the coast turning black with oil and chemicals.

Now that the tsunami has hit, the scientific verdict has been unanimous – the damage is the greatest where the beaches have been built on, where the dunes have been flattened, where fresh water was taken out of the underground and where the coral reefs were killed. The same verdict was given after the Orissa cyclone. I cannot resist saying I told you so.

You need not wait for tsunamis and cyclones. Just take the satellite pictures of all the islands where the forest and reefs have





AS SEA WALLS: Mangrove forest in Valapatanam river, Kannur- Kerala.

been cleared for tourism , of all the coastal areas of Tamil Nadu, Kerala, Andhra Pradesh, Orissa and Gujarat where they have been cleared , not just for tourism, oil refining plants, chemical industries ,shrimp farming – and then see how , little by little, the land of India is being reduced. Look at the Sundarbans which is regularly hit by cyclonic activity and see that where the mangroves exist , so do the villages and where the edges of the river are bare , the land has thinned out. Look at the television reports of the affected land. There are no swamps or mangroves and the affected area is bald for the most part. They were just a disaster waiting to happen.

Instead of spending billions on emergency compensations, let us urgently start building coastal defences , in the form of mangrove replantation.

If there are any doubters among you , look at the evidence provided by Pichavaram and Muthupet in Tamil Nadu. These are 5 villages , 500 meters away from the shore. The shoreline is full of mangroves and the villagers protect them. The waves of the tsunami came but not a drop of water entered the villages. As Dr M.S Swaminathan, of the Swaminathan

Research Foundation ,Chennai and proponent of mangrove regeneration says, “The dense mangrove forests stood like a wall to save coastal communities living behind them. The mangroves region acted like a shield and bore the brunt of the tsunami. The impact was mitigated and lives and property of the communities inhabiting the region were saved”. After the Orissa cyclone , the same Foundation started regenerating the mangroves on the Orissa coastline. As a result, the lessons learnt from the cyclone have resulted in the coastal villages of Orissa being minimally hit by the tsunami wherever the mangroves were planted.

Mangroves are plants which live between the sea and the land, where they are flooded by tides. A mangrove may be a tree, shrub, palm, fern, climber or grass - all of them able to live in salt water. Mangroves thrive in salty environments because they are able to obtain fresh water from saltwater. They grow along the coasts , estuaries, backwater and islands . They look like walking trees with their strange roots and leaves. Mangrove forests thrive near the mouths of large rivers where river deltas provide lots of sand and mud.

Mangroves are extremely important to the survival of India:

- Mangrove roots collect sediment and slow the water’s flow, helping to protect the coastline and preventing erosion. Their roots prevents mud and sand from being washed away with the tide and river currents. Over time, the roots collect enough debris and





mud to extend the edge of the coastline further out- a natural increase of land. Mangrove trees and the creatures that live in it slowly regenerate the soil by penetrating and aerating it. As the mud builds up and soil conditions improve, other plants can take root.

- Mangrove forests protect land from



storm winds, cyclones, waves, and floods. The amount of protection afforded by mangroves depends upon the width of the forest. A very narrow fringe of mangroves offers limited protection, while a wide fringe can considerably reduce wave and flood damage to land by enabling overflowing water to be absorbed into the expanse of forest. In areas of the world where mangroves have been removed for “development” purposes, the coastline has been subject to rapid erosion

- They improve water quality by filtering pollutants. Due to the filter-feeders fastened on the roots: barnacles, sponges, shellfish the water is cleaned of nutrients and silt and, clear water washes out into the sea, allowing the coral reef ecosystem to flourish.

- Mangroves produce a lot of nutrients for sea creatures and every time the tide goes out, it carries tonnes of food out to sea. This is dropped over the seabed, and feeds bottom dwellers, prawns and fish. Mangroves have thousands of unique species - from the Royal Bengal tiger to, crab-eating monkeys, estuarine crocodile, otters, to shellfish and shrimps, the roots and branches provide hiding and nesting places for all. If the mangrove goes, they all go.

- They are the nursery for all fish/shellfish so no mangroves – no fish., mangroves are the nurseries of fish, crabs, shellfish, prawns. Unless the fisherman has the mangroves, he cannot have the fish.

- Mangrove fruits can be eaten. The best honey is mangroves honey. Many essential medicines are made from mangroves. Their fronds are used for thatching and baskets, their barks for tanning or fishing floats.

Mangroves give thousands of livelihood options. We need to do three things at once: stabilize the shorelines and protect them from erosion, give livelihoods to the thousands of people who live on the shoreline and defend ourselves against natural calamities, Reestablishing mangrove ecosystems works for all three.. As the mangroves grow they turn into forests in four years. Not only do the fishermen benefit from the products of this forest which is a larder at his door but also from tourism.

If Maldives had invested its money not in hotels and concrete seawalls but in mangroves, perhaps it would not have lost so much land. Nor would the Andamans

and Nicobar whose bare beaches brought devastation in. Vast mangrove areas have been degraded as a result of deforestation, reclamation, “mosquito control” (!) pollution. The few that are left are under severe attack from builders – as in Mumbai where the mangroves are being cut rapidly in spite of a citizens movement against this. Perhaps next time it will be Mumbai that is washed away. But instead of entrusting this to the forest department which ensures that it will be an expensive failure, there should be a Mangrove Replenishment Initiative along the rivers and coasts of India to restore and create habitat. Planting mangrove seeds is not rocket science. Put someone like Swaminathan or Pitroda on it and get local projects with active involvement by community, students, teachers, and individual volunteers. If you find this way too long, get the army and the navy involved. These are the wars they need to fight.

Eightyseven per cent decrease of our mangroves have disappeared in the past forty years, replaced by urbanization, agriculture, recreational activity, shrimp farming or carelessly by casuarinas. Many governments have realized how necessary mangroves really are and have adopted mangrove restoration/conservation programs. Cuba have recruited mangrove planting companies to restore thousands of hectares. The UNDP is also paying for services like this for any country that asks them. The Philippines has a Coastal Resource Management Project which is implementing a program of mangrove management and restoration along 3000 km of shoreline to protect or restore 16,000 ha of mangroves. Coastal fish farmers on the Indonesian island of Java are given 4–5 hectares of land, but are required to plant mangroves on 20% of it. This is a sustainable long term solution.

The fishing communities that live by the sea have been the hardest hit. Along with giving them boats and nets and restarting their profession during such uncertain times, why not use this opportunity to shift them to other professions and crafts. The first one could be as the mangrove planters of the entire belt. The same money could go towards education, showing them how to make nurseries, putting a price on each plant and then getting the forest department to partner them. ■

Forests belong to each and every individual of the society. It is a Public Trust which has been entrusted to the Forest Department by the society for safekeeping.

Beneath the Canopy

Xavier Primus Rajan

A forest, which we usually think of in terms of trees, is in fact a complex living community. Beneath the forest canopy, dwell independent populations of plants and animals. From the mammoth elephants and trees to minute microorganism, forest supports many life forms, which are yet to be identified and their usefulness explored. They are the largest pharmaceutical factories of the world. It is estimated that a single tree produces five tones of biomass during its life span of fifty years. The soil that forms the forest floor contains a large variety of invertebrates, bacteria and fungi, which play an essential role in cycling nutrients in the soil and the forest.

As the great sponge which gathers and releases water, enriching ground water resources, feeding rivers and streams and providing a continuous supply of fresh water as the habitat for flora and fauna that would otherwise become extinct as the great oxygen producing factories... should the need for conservation of forests be stressed any further?

The forest cover of Kerala is largely spread over the Western Ghats, which border the State. The Western Ghats represent one of the worlds eighteen hot spots of bio-diversity and is considered to be a repository of endemic, rare and endangered flora and fauna. The State's forests include 9157.10 sq.kms. of reserve forests, 214.31 sq.kms. of proposed reserve and 1754.18 sq.kms of vested forests.

Though the percentage of forest cover in the State is 28.9 which is higher than the National coverage of 19.5%, it is short of the axiom that a third of the global land

mass need to be covered with forests for maintaining proper ecological balance.

The Department of Forests strives to bring at least 33% of the area of the State under forest tree cover, through private forestry and by facilitating afforestation of all vacant land outside forests with public participation.

Habitat Forestry

The objective of this scheme is the greening of the State by full stocking of all existing tree cultivable vacant spots with forestry trees with a targeted increase of forest cover by 5% in 10 years. Self-sufficiency in wood requirements of the state is also an objective of this scheme.

Under Habitat Forestry farmers are encouraged for forest tree cultivation in their homesteads. Forest tree planting is also being taken up in public places and institutional compounds.

A panchayath each has been identified in each of the 14 districts for implementing the 'Eco-village' Programme, (another component of Habitat Forestry) which targets planting of 50,000 seedlings.

Vriksholsavam

Planting of trees in school, public sector and government office compounds with the co-operation of Non Governmental Organizations (NGO's) and Local Self Government Institutions (LSG's) come





under Vriksholsavam. The scheme targets planting of about 25,000 seedlings in each district. Protection of the planted trees will also be the responsibility of the LSG's for which and incentive of rupees one per tree is also provided.

Haritholsavam

Seeks to plant trees on sides of roads and canals with peoples participation 'Kazhchavanam' (demonstration forests) and 'Kelivanam' (Recreation Forests) on government wastelands is yet another objective of this scheme. These artificial bits of forests will create public awareness and provide for recreation.

Sanjeevanivanam



Is aimed at the conservation and enhanced availability of medicinal plants by planting and nurturing medicinal plants in their natural environs inside the forests.

Haritha Theeram

Aims at encouraging afforestation of coastal zone, prone to sea erosion and calamities like the tsunami. Afforestation of 17 kms. in Alappad Panchayat of Kollam District in collaboration with the Matha Amrithanatha Madom is an excellent success story of this scheme. With a proposal to produce 50,000 seedlings in nine coastal districts under this scheme, the Social Forestry wing looks forward to more such collaborative projects with NGOs.

Conservation of Sacred Groves

Sacred groves are the green lungs of cities and town. Creation of awareness among the custodians of sacred groves (kavus) and the local people on role and importance of these groves in the ecosystem and environmental protection is the objective of this scheme. Acquisitions of land around scared groves, conservation activities, encouraging landowners to nurture existing ones and for creating new ones are also objectives of this scheme.

Wetland Conservation

Mangroves are unique plant

communities which grow in inter tidal zones at river mouths in the tropical and such tropical regions of the world. This project aims at conserving the delicate Mangrove ecosystem in the State with entry point activities, planting operations etc.

River Bank Conservation

Grave environmental degradation is being brought to the riverbanks of the State by activities like sand mining, cultivation etc. To conserve and consolidate our riverbanks, planting of suitable trees/reeds etc. is envisaged with the participation of the people.

Production and distribution of forest tree seedlings, establishment of model nurseries, incentives for planting and maintaining trees etc are measures adopted by the Department for strengthening Agro Forestry.

Vanamithra Puraskaram

The Government has instituted Vanamithra puraskarams for individuals and institutions that are trend setters in afforestation and conservation programmes. The prize money for individuals is Rs.50,000/- and Rs.2 lakh for institutions.

Participatory Forest Management

Appreciating and understanding the value of forests as a source of many raw

materials, as a provider of local employment, as a tourism potential and a generator of National income, is also a key factor necessary for effective forest conservation. Taking the dependency of the fringe area population and forest dwelling tribals into consideration, Vana Samrakshana Samithies (VSS) have been formed under the participatory Forest Management Programme (PFM) of the Department. VSS is a fraternity of forest dependent populace of a given place with an elected president and a forest guard or forester, as its secretary. Tribals and women are given preference in this society.

VSS, along with the forest department nurture degraded forests and take up conservation activities under long term agreements. Apart from gaining employment, the Samithi members are also permitted to enjoy the fruits of forest



P.R. - Seekumar

produces. They are responsible for preventing forest fires, boot legging, hunting, timber felling etc. They pool in a share of their profits and spend them for

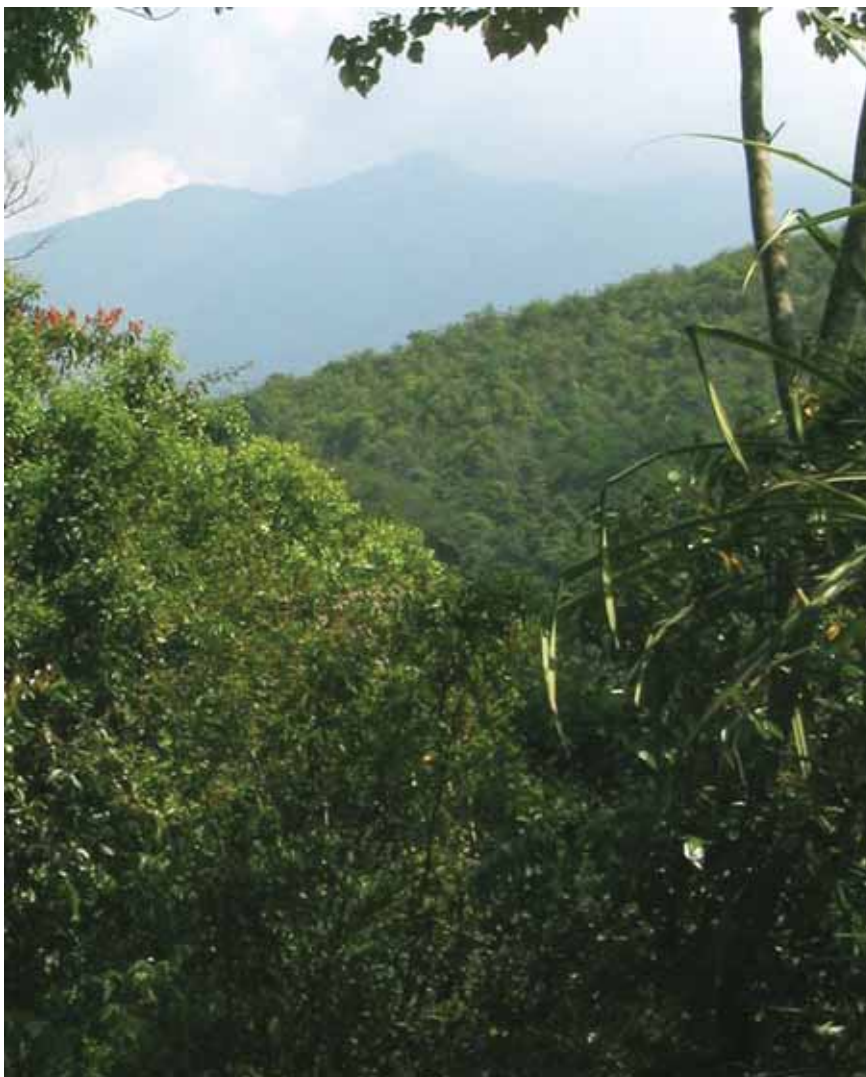
the development of their village. Such societies functioning in wildlife divisions are called Eco-Development Committees (EDC). There are 327 VSS in the State bringing 166108.44 ha. of forests under Participatory Forest Management.

Forest Development Agency (FDA)

A Forest Development Agency is the sum total of all VSS & EDCs of a forest division. There are 33 FDAs in the State and National Afforestation Programmes (NAP) of the government of India are being carried out through 14 FDAs at present.

Apart from planting trees and nurturing groves, forests have also to be protected from poachers, bootleggers, marijuana cultivators and forest fires. Our State abounds in rich and precious fauna & flora. Elephants hunted for their tusks, tigers and leopards for their hyde, deer for their meat, trees felled for timber, and the precious sandalwood, starting forest fires (accidentally by bootleggers and deliberately by tribals for preparing land for cultivation, making a holocaust of millions of life forms in its wake) and clearing of forest land for encroachment or Ganja cultivation are illegal activities that should be checked at all costs.

The vigilance wing of the department has set up the toll free telephone number 1800 425 4733, at its head quarters, in which such activity can be reported by anyone from anywhere in the State, at any time of the day or night, free of cost. Such calls will be registered, information passed on to the concerned Divisional Forest Office, and action ensured with prompt follow up.



Recognition for Conservation

The performance of Pampadikuzhi Vana Samrakshana Samithi made them won the newly constituted Vana Samrakshana Samiti Sarvotham Award by Govt. of Kerala. **M.I. Nazar Sha** explains activities they performed.

Everyone including the bureaucracy knew that without the participation of people nothing is possible. People of Pampadikuzhi proved this and that too quite successfully.

Ayyappankavu Kovil range consists of 318 hectares of forestland spread in Valodepura Kochidukki, Vilaghanpara, Thenparakkam and Kurusumala areas. It is in this range that Pambadikuzhi settlement area with 167 houses is situated. The conservation team comprise of 325 persons of which many are from SC-ST category.

This nature club made a humble beginning by collecting just Rs 2 from SC-ST sections and Rs 5 each from general category. By of this collection they could mobilise Rs 914 as membership fee. From the Forest Department they received another amount of Rs 5000, used for the day today activities of the club.

Although this range was cited as an example of afforestation years ago, but forest fires, illegal tree felling, unlimited collection of firewoods converted this area into a hub of deforestation. But now its gladdening to see that the efforts to prevent the gradual annihilation of the forests have come from the people themselves.

Once the Nature club came into being, the first step that it initiated was to check

forest fire, which was quite common. Kurusumala, considered the epicentre of forest fires, was taken as priority area. Quite significantly no forest fire has been reported from this area for the past three years thanks to awareness programmes conducted by the team in



Basketed plants in the nursery of VSS.

association with the local people.

Tree felling was not a new thing in this area. Trees were unabashedly cut for teak wood from this area. But with club members now being extra vigilant, not even a single case of tree felling has been reported so far.

The forest range close to Idukki Dam reservoir consists of Pambadikuzhi, Kozhimala and Murikkattukudi. This is the area where cattle feeding in extensive stretches of land resulted in soil erosion. But

now because of the awareness campaign and Silvipaster Project cattle's feeding in the area is controlled. Fire wood collection was another problem. This was also controlled with awareness programmes and finding alternative methods. For fire wood trees were grown, biogas plants were introduced for the cooking purpose.

Kuruvinachali had thick forests but all got destroyed due to cutting of bamboos in large quantity. This was solved to a great extent by planting of bamboo in large scale. This all happened as part of the afforestation programmes started from 2002 in Kurusumala, Jandapura, Thenaparakkana etc by the mere initiative of the Pambadikuzhi Eco Club.

The nature club and the activities not only helped in protecting th greenary but also making the life of people better. The renovation of the only anganvadi in the settlement area, electrification of the houses etc is some of the activities under the leadership of nature club.

Settlement areas where the people lead a difficult life fighting with poverty and unemployment get a little relief for the activities not definitely to needy stage. May the activities lead to that level in future.

The writer is Secretary VSS unit, Pambadikuzhi.

Translated by K.R. Prasad.

Forestry Information Bureau

Practice and benefits of forestry need to be brought before the public. This is an uphill task as the time scale involved in forest management is excessively long, compared to the rapid pace which modern man accepts as normal in other activities.

The Forestry Information Bureau does yeoman service in the dissemination of information in this regard. Forestry clubs are set up in schools and colleges where

forestry activities are promoted. Film shows, slide shows, exhibitions and awareness classes are conducted by the Forestry Information Bureau. A well stocked library at the Forest headquarters is available to the public for ready reference and perusal.

Other than conducting seminars, workshops etc, the Forestry Information Bureau also brings out periodicals, leaflets and brochures on various activities and schemes of the department.

Forests belong to each and every

individual of the society. It is a Public Trust, which has been entrusted to the Forest Department by the society for safekeeping. This does not absolve the responsibility of the citizen to conserve and protect it. He is constitutionally bound to this end.

Forests are the treasure houses of the generations yet to be born. We are only its present day custodians. ■

The author is Public Relations Officer, Dept. of Forests & Wildlife, Govt. of Kerala.

Kerala Forests

Innovative Practices for

Cons



R.Ramkumar

The luxuriant greenery of Kerala's forests encompassing rich biodiversity from thriving micro-organism to the giant *elephas maximus* is part of Western Ghats biome – one of the world's 25 hotspots of biodiversity. The Kerala Forest Department undertakes the uphill task of protection of immense wealth, estimated to the value of not less than 62,000 crores. They are equally ambitious to insure the ecosystem outside the forests. Among the existing forests in the world, the tropical forests situated in a narrow belt on either side of the equator are of prime importance, because of their rich biodiversity and versatile productivity.

Kerala scenario

The Forests of Kerala, falling under the tropical zone and with the hill ranges of Western Ghats, are of special importance with its rich biodiversity and endemism of various species. They are also the source of timber, firewood, fodder, non-wood forest produce, industrial raw materials and innumerable varieties of medicinal plants.

The total forest area available with the department is divided into 23 territorial and 14 protected (wildlife) divisions. They are governed by scientifically prepared working plans and management plans. There are about 3700 protective staff, 2190

ervation

ministerial staff and a big contingent of work based daily wageworkers. The revenue earned from the forest sector during 2003-2004 was 187 crore rupees.

People friendly

The management and administration of forests is oriented towards people friendly practices. As a result management is a joint venture of local people forming Vana Samrakshana Samithies (VSS) and Eco-development Committees (EDCs). 560 such groups are actively looking after 16,540 hectares of forest area. The term widely used in forest management for such *vox populi* management is Participatory Forest Management (PFM).

There are several success stories of VSS and EDCs under PFM. The Swami Ayyappa Poonkavana Punarudharana Eco-Development Committee (SAPPEDC)

functioning in Periyar Tiger Reserve won the prestigious 'Indira Priyadarshini Vrikshamithra' award for the pioneering and innovative contribution in the field of afforestation and protection of forest ecosystem. The activities of SAPPEDC immensely helped in checking biotic interferences in Periyar Tiger Reserve during Sabarimala pilgrimage.

The Vazhachal VSS dominated by tribals, (Kadars and Malayas) earn their livelihood by excellently managing Athirapilly, Charpa waterfalls and Vazhachal picnic spot. They also created basic infrastructure facilities for tourists including drinking water, garbage disposal and also arrange adventure trekking with the help of trained tribals.

Foundation for Eco-development

The success of various eco-development committees functioning at Periyar Tiger Reserve prompted to launch a facilitating agency, called "Periyar Foundation" to fill the vacuum of India Eco-development Programme which ceased its operation in 2004. The foundation focuses on the Periyar Tiger reserve for research, training, park development and management, environmental education, eco-development and eco tourism.

The main functions of the Periyar Foundation is biodiversity conservation through eco-development and people's participation in Periyar Tiger Reserve and adjoining landscapes. The foundation registered under charitable and religious Trust Act will be a booster to people friendly forestry practices.

Sons of soil to guard the treasure

Tribals, the real and proud inheritors of forests have a vital role in forest protection. The department duly recognized this dogma and recruited nearly 300 tribal forest guards including women. For the first time, in the history of forest administration women Rangers were also appointed.

Timber for the common man

People found timber too costly to purchase and were reluctant to participate in timber auctions. They now have an easy option of procuring it from the forest



Durga Sankar

department's retail timber depots at government fixed rates. Retail timber depots are functioning at Pathanapuram, Parampuzha, Chalakkudy, Chaliyam, Walayar, Konni, Kothamangalam, Thalakode, Mudical, Veetoor, Aruvacode, Manjakal, Kasargode, Kuppady, Kannvam and Kulathupuzha.

The Fragrance of Sandal

The fragrance of sandal, abundantly available in Munnar, created headache to the department with the increasing reports of theft of sandal trees. The department took bold action to wind up all illegal sandal processing factories. A new Sandal Division was formed in Marayoor to ensure the protection of sandal wealth.

The sandal forests in Kerala are chiefly distributed in Anjanad valley in the eastern side of the Western Ghats falling in Marayoor Forest Ranges. The total production during 2004-05 was 54622 kg.

Ganja Cultivation under surveillance

The Kambakallu and Kadavari areas of Idukki district prone to Ganja cultivation received their deathblows when the forest personnel made successive raids and destroyed ganja plants. Ultimately nearly 8000 acres of revenue land in this area was transferred to forest department. Two new forest stations were also opened in this vulnerable area for permanent protection. The department mobilized public support for checking such anti social elements engaged in ganja cultivation.



Deliberations on Conservation

Forests can be used in the same way now as they have been in the past. However, this demands a clear and conscious priority to conserve and protect forests from the onslaught of unrestricted human use - areas in terms of the myriad values they contain and irreplaceable by human ingenuity or engineering.

As part of protection, especially physical protection of forests from encroachment and

illicit removals, 88 forest stations are on vigil. Forest Rapid Action Force stationed at Nilambur and Konni are also equipped for crisis management. People can pass on information to the toll free telephone number 1800 425 4733 round the clock.

Fire Protection

Forest fires are the silent killers of the forests and is the major reason for the overall degradation of the forests. For effective prevention of forest fires a state-wide strategy has been planned and followed. Vanasamrakshana Samithis, (nearly 213 operating in fringe areas) are supported with the strategy of forest fire operations. Creation and maintenance of 5000 kms. of fire lines and deployment of fire gangs are part of the strategy.

Forests: Our Future

There is a developing consensus to significantly reduce the levels of world poverty in the next two decades. Forests currently contribute to poverty alleviation in many ways. The indigence of about one

billion of the world's poorest people in about 30 heavily deforested countries would be alleviated through community forestry to meet rapid afforestation and reafforestation targets.

The philanthropic gestures of the Kerala forest department advocate massive tree planting programmes. During monsoon season, saplings are distributed from social forestry outlets. Planting is the need of the hour as urbanization gobble

greenery and the state is compelled to import 5.5-lakh cubic meters of timber every year, costing the exchequer 500 crore rupees.

Forest is the precious gift of mother nature. The destruction of forests in the world must be avoided from moral, ethical and religious points of view. They are the only renewable resource to meet all the requirements of mankind. Having a rich range of forests on earth is like a well-stocked storehouse, from which we can draw on to sustain us. ■

Forest Publicity Officer, Forestry Information Bureau, Kerala Forest Department.



The Periyar Tiger Samrakshana (PETS) EDC won the prestigious Vana Samrakshana Samithi Sarvotham Award 2006 instituted by the Government of Kerala for their meritorious service. **K. Rajasekharan Pillai** narrates their success story.



The Periyar Tiger Samrakshana (PETS) EDC is one of the 72 democratic Eco development Committees functioning in the Periyar Tiger Reserve, Thekkady. They are the part and parcel of the protection and management efforts of the protected areas. The members of the EDC have been serving the protection of this area for ten to thirty years and majority them are natives.

These watchers, stand watch and ward along with forest personnel. The activities of the EDC are suitably recognised by the people of Kerala. They bagged this year's award for the best performing EDC – Sarvothama Award- constituted by the state government of Kerala. The EDC was chosen for the award from among 600 Ecodevelopment Committees and *Vanasamrakshana Samithies* functioning across the state.

They help the Forest Department in various ways like forest protection, wildlife census and research, fire protection and anti-poaching and visitor, pilgrim and travel management. Their contribution to the government is multifaceted. They extend their labour contribution to the government for protecting the remaining practices of our natural prestige.

Watchers are the main catalysts to the biodiversity conservation of the Park. Their long run experience, coupled with their domicility status, is really an indispensable element in the Park protection. The project opened a new approach of

PETS

A role model for EDCs

forest management; a new partnership was developed between the fringe area community and the forest personnel. The EDC acts as a comfortable zone to the watchers, as it extends accommodation to them in every respect. However, there is no compromise to conservation efforts and the recognition reached the most deserving group.

For their service, they received the award from V.S. Achuthanandan, Chief Minister of Kerala in a function held at Tagore Theatre, Thiruvananthapuram. Binoy Viswam, Minister for Forests, preceded over the function.

After long years of service as protection watchers they had accumulated enough skills in the fields of protection, wildlife census and research, anti poaching, ganja eradication and other surveillance operations. While they are working as a surveillance force they depend the resources from the reserve or their livelihood as per the international policy agenda, the participatory biodiversity conservation. For administrative sake PTR is bifurcated in to two divisions: Periyar East and Periyar West divisions. Hence there are two PETS EDCs in PTR. The numbers of members are 63 and 33 respectively of Periyar East (based at Thekkady) and Periyar West (based at Vallakkadavu) PETS EDCs. It is a proud privilege to the PETS EDC Thekkady that it heralded similar initiatives in other PAs in the State since then. Really they have become a role model for EDC's.

Tourism Related Activities

Thekkady is a world-renowned tourist destination and its annual visitation comes around five lakhs. Considering their role in maintaining the biodiversity opulence, which is the prime tourist attraction. New tourism programmes and facilities were introduced as income generating activities to help for them as per the international policy agenda. That includes Jungle patrol, Bamboo rafting, Border hiking and jungle inn. The EDC also runs a turtle shaped souvenir shop that sells articles to tourists. The group runs a binocular hiring out let, cloakroom and toilet facilities at the boat landing. In addition the EDC provides food and refreshments to various ecotourism programmes nature sensitisation camps and other official Programmes of forest department in Thekkady.

The income earned through various programmes is judiciously shared. Majority share goes as supplementary wage to the EDC members. ■

The author is Economist, Periyar Foundation, Thekkady



Dr. Job Thomas

It is Ashadam once again. As far as the Malayalee is concerned its time for rejuvenation.

The Malayalee had learnt to live in harmony with nature generations ago. It's his cultural heritage. Nature was always his teacher. He lived in accordance with Mother Nature. It's true all our ancestral conventions have a strong scientific rooting.

The heavy rains and cold weather of Karkitakam used to adversely affect health and derail the normal life of Keralites. The rains disrupted livelihood as it was no longer possible to work out doors. As a result people were forced to sit idle. They started thinking and formed regimes on the basis of laws of nature to protect their health. Ayurveda was always part and parcel of their life.

Tradition considers Karkitakam as the month of woes. The heavy rains and chilly winds play havoc with the human system. The unbalanced

tridoshas and the degraded digestive system affects natural immunity and thus the body becomes an easy target for pathogens. That's why Ayurveda insists on protective measures during the monsoon and so Keralites traditionally underwent preventive therapeutic measures though they were healthy.

Our ancestors chose three months Tulam, Kumbam and Karkitakam as most suitable for traditional Ayurvedic treatment. This is based on the view that all seasons manifest in time their peculiarities (rain in monsoon, heat in summer and cold in winter). Out of the above mentioned three seasons Karkitakam is considered to be the most suitable month for Ayurvedic rejuvenation. During this rainy season the body's readiness to accept medication is at its peak and so therapies aimed to strengthen the body would have to be administered. But that doesn't mean Ayurveda is meant only for monsoon. Ayurveda is an all season health care system and therapies are relevant throughout the year.

Ayurveda divides year into two phases the *Adanakala* a period during which the

forest management; a new partnership was developed between the fringe area community and the forest personnel. The EDC acts as a comfortable zone to the watchers, as it extends accommodation to them in every respect. However, there is no compromise to conservation efforts and the recognition reached the most deserving group.

For their service, they received the award from V.S. Achuthanandan, Chief Minister of Kerala in a function held at Tagore Theatre, Thiruvananthapuram. Binoy Viswam, Minister for Forests, preceded over the function.

After long years of service as protection watchers they had accumulated enough skills in the fields of protection, wildlife census and research, anti poaching, ganja eradication and other surveillance operations. While they are working as a surveillance force they depend the resources from the reserve or their livelihood as per the international policy agenda, the participatory biodiversity conservation. For administrative sake PTR is bifurcated in to two divisions: Periyar East and Periyar West divisions. Hence there are two PETS EDCs in PTR. The numbers of members are 63 and 33 respectively of Periyar East (based at Thekkady) and Periyar West (based at Vallakkadavu) PETS EDCs. It is a proud privilege to the PETS EDC Thekkady that it heralded similar initiatives in other PAs in the State since then. Really they have become a role model for EDC's.

Tourism Related Activities

Thekkady is a world-renowned tourist destination and its annual visitation comes around five lakhs. Considering their role in maintaining the biodiversity opulence, which is the prime tourist attraction. New tourism programmes and facilities were introduced as income generating activities to help for them as per the international policy agenda. That includes Jungle patrol, Bamboo rafting, Border hiking and jungle inn. The EDC also runs a turtle shaped souvenir shop that sells articles to tourists. The group runs a binocular hiring out let, cloakroom and toilet facilities at the boat landing. In addition the EDC provides food and refreshments to various ecotourism programmes nature sensitisation camps and other official Programmes of forest department in Thekkady.

The income earned through various programmes is judiciously shared. Majority share goes as supplementary wage to the EDC members. ■

The author is Economist, Periyar Foundation, Thekkady



Dr. Job Thomas

It is Ashadam once again. As far as the Malayalee is concerned its time for rejuvenation.

The Malayalee had learnt to live in harmony with nature generations ago. It's his cultural heritage. Nature was always his teacher. He lived in accordance with Mother Nature. It's true all our ancestral conventions have a strong scientific rooting.

The heavy rains and cold weather of Karkitakam used to adversely affect health and derail the normal life of Keralites. The rains disrupted livelihood as it was no longer possible to work out doors. As a result people were forced to sit idle. They started thinking and formed regimes on the basis of laws of nature to protect their health. Ayurveda was always part and parcel of their life.

Tradition considers Karkitakam as the month of woes. The heavy rains and chilly winds play havoc with the human system. The unbalanced

tridoshas and the degraded digestive system affects natural immunity and thus the body becomes an easy target for pathogens. That's why Ayurveda insists on protective measures during the monsoon and so Keralites traditionally underwent preventive therapeutic measures though they were healthy.

Our ancestors chose three months Tulam, Kumbam and Karkitakam as most suitable for traditional Ayurvedic treatment. This is based on the view that all seasons manifest in time their peculiarities (rain in monsoon, heat in summer and cold in winter). Out of the above mentioned three seasons Karkitakam is considered to be the most suitable month for Ayurvedic rejuvenation. During this rainy season the body's readiness to accept medication is at its peak and so therapies aimed to strengthen the body would have to be administered. But that doesn't mean Ayurveda is meant only for monsoon. Ayurveda is an all season health care system and therapies are relevant throughout the year.

Ayurveda divides year into two phases the *Adanakala* a period during which the



Deepak



Pravraj

body gains energy and *Visargakala* a time when the body loses its energy. Normally monsoon falls in the *Visarga Kala*.

The decline in digestive powers and the unbalanced body humours are the cause of all monsoon health problems. During the monsoon, temperature dips and inflames *vata dosha*, *pitta dosha*, *dense kapha dosha*

and accumulate sparking many diseases. To sum up Karkitaka therapies are just a means to keep in check the rampaging *Vata Pitta* and *Kapha* to maintain good health.

Ayurvedic medicines can effectively work only if the system is free of toxins. So before any Ayurveda rejuvenation therapy the physician cleans the body of the patient

mildly with suitable purgatives.

As the digestive fire declines and all the three doshas, particularly vata, gets aggravated, during monsoon strict food restrictions are also to be followed by the patient. A person should eat only those things that would digest easily and at the same time increase digestive capacity and reduce the vitiated doshas.

Malayalees are ready to adopt things positive thrown up by any culture. Our fore fathers learned from experience and we know there is considerable logic in their customs and traditions they were following. Ayurveda tackles monsoon problems by administering medicated gruels (*oushada kanji*) and by application of warm medicated oils over the body. These oils are prepared by boiling herbal extracts with it for a particular period of time. Massage should always be done in a downward manner very gently. Massage will help to keep the warmth of the medicated application till hot water bath.

The gruel is made using easily digestible cereals, herbs and plant extracts. It is also prescribed for persons from various diseases

after changing the medicinal ingredients. An experienced Ayurvedic physician will be able to select suitable herbs suited to palliate different ailments. The gruel is usually taken in the morning on an empty stomach. Sometimes it is had after avoiding supper. It is better not to use any other dishes or curry along with medicated gruels.

The rising health consciousness and confidence in ayurveda has brought Karkitaka Chikilsa back into vogue. The panchakarma therapy and special Kerala therapeutic techniques like Dhara, Pizhichil, Njavarakizhi have gained enough popularity in the newer generations also. This special Ayurvedic treatments developed by the stalwarts of kerala has its theoretical base in the ancient ayurvedic texts. All these therapies can be conducted only in a well equipped Ayurvedic hospital and the supervision of a well experienced Ayurvedic physician is a must. The duration of the treatment will last for a month time. Complete rest is absolutely essential during the treatment period and an also equal number of days after the treatment. The experience of the doctor counts much in Ayurvedic system of medicine. The important qualities an Ayurvedic physician should possess is a logical out look and philosophical thinking. The patient is bound to obey the directions and food restrictions advised by the physician diligently to get the full benefits of the therapy.

Karkitaka therapies can neutralise many diseases caused by the change in climatic conditions and modern way of life, particularly faulty eating habits. Stress in day to day activities which is too common now and has generated many diseases Ayurveda has a holistic approach and so physical and mental health are taken care of well.

In India usually it rains in the month of July and August and again in November and December. So one should follow the health practices prescribed for the rainy season all through these months.

As a general principle Ayurveda recommends light and easily digestible food for the raining season. It should also have the quality to improve innate digestive capacity. So one should add in diet old grains, ghee in needed quantity, honey, long pepper, arishta type of liquors, meat of arid

animals and soups. Thinking dosha wise these food items has quality of palliating vitiated tridoshas. When sprinkled with *panchakola* powder is an excellent drink for the season. Butter milk with *panchakola* powder is also a recommended drink.

During the rains a person should consume salty, moderately sweet and sour foods to neutralise the chilly, humid weather. The food should preferably be consumed hot. Cooked food must be either sour or sweet and must be taken moderately. Mutton and vegetable soups are ideal for the monsoon.



Ayurveda is a way of life more than a system of treatment. Ayurveda holds that it is better to prevent diseases than to try cures after it has taken roots.

During the Monsoon acidity (amla) increases in nature as well as the human body. This suppresses appetite and reduces the natural immunity of the body. To tackle this certain rules need to be followed.

Avoid food when the skies are cloudy and the sun is hidden. If food is unavoidable, take hot, light meals only. Vegetarians must eat boiled fresh vegetables mixed with coriander, cumin, salt and asafoetida.

Generally it is better to avoid meat during the monsoon. Meat is difficult to digest and puts a heavy burden on the metabolic system. There is also the

possibility that the animal might have consumed contaminated food and its meat could be infected with pathogens.

It is good to consume milk or buttermilk spiked with ginger or pepper as it aids digestion. During the rains avoid eating outside. The food supplied by eateries are likely to be infected and could cause infections. Another useful preparation for drinking during this season is honey mixed with water. Honey contains a lot of natural, easily digestible sugars and provides a lot of energy. papads must be roasted on the fire. Avoid fried and oily food. If you are a vegetarian eat Amaranthus. It is acidic and its sourness is an antidote for the vatadosha in your body.

Apart from food, day to day conduct also needs attention. During the rains it is better not to walk out in the rain without proper protection. Many infection can be prevented by avoiding walking in the slush and water. Exercise moderately and take massages regularly. Use lukewarm water for bath and other routine purposes. Drink only boiled cool water. You can also use pleasant fragrances. The clothes used must be clean. It will be good if the clothes for daily use are fumigated with Akhil, Gulgulu and Kunthirikkam.

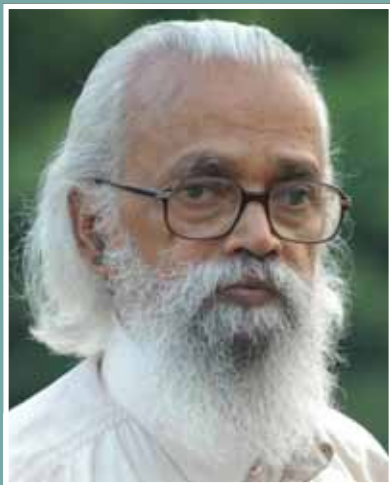
During the rains it is better to avoid day time sleep, excessive exercising. Hard labour weaken the body. Also must not sit on grass wet with dew. Another thing to avoid is regular sexual activity.

The pre-monsoon period is also considered the most dangerous as it follows summer, when the 'Adana Kala' comes to an end. *Vata* will be high and the first rains will increase *pitta* and can cause serious disorders. This period also deserves special care.

The world considers Kerala as the birth place of Ayurveda. The increasing number of foreigners who visit Kerala in search of Ayurvedic therapies even for many chronic illness attests to the confidence that they have in this ancient healthcare system. Though times and lifestyles have changed, Ayurveda still continues to enjoy confidence of the mass.

Ayurveda is a way of life more than a system of treatment. Ayurveda holds that it is better to prevent diseases than to try cures after it has taken roots. ■

The author is Senior Physician, the Arya Vaidya Pharmacy.



Joseph Edamaruku (1934 - 2006)

A Rationalist to the Core

Joseph Edamaruku, veteran journalist, author of several scholarly books and legendary rationalist leader passed away on 29 June 2006. He was 72. Edamaruku was the founder-secretary of the Kerala state government sponsored Malayalam language study centers outside Kerala and was a father figure of this fast growing movement.

An eminent rationalist, scholar and author of 173 books and more than two thousand articles in Malayalam language, Joseph Edamaruku was active till his end. An indefatigable campaigner against obscurantism, superstitions and blind belief, Edamaruku represents a colorful era of Indian rationalism. He was the president of Indian Rationalist Association from 1995 to 2005.

Joseph Edamaruku was born on 7 September 1934 in the hilly district Idukki. Hailing from a traditional Syrian Christian family that contributed bishops and priests to the church, close experience with the church and Bible education made him a rationalist while still in his teens. He became an activist, married Soley from a Hindu family and challenged caste marriages. He was instrumental in building up the strong rationalist movement in Kerala. His dedicated work to wipe off blind beliefs and superstitions have played a remarkable role in Kerala's social transformation.

Edamaruku started his journalist career as the editor *Cinema Masika* in his early 20's. Later he conceived the idea of Manorama Year Book and joined Malayala Manorama as the first editor of the Year Book in 1958. Edamaruku's historical studies and rationalist works have

a respected position. In 1979 he received International Atheist Award from American Atheists. His autobiography, *The Times that Raised the Tempest* won award from the Kerala Sahitya Akademy in 2000 as the best autobiography. In 1977, Joseph Edamaruku moved to Delhi, and for the next thirty years he was active in pursuing his journalist career and rationalist activities there. He was the bureau chief of *Kerala Sabdam* group of publications in Delhi from 1977 till his death in 2006.

As per his wishes his eyes were donated to All India Institute of Medical Sciences. The body was kept at the Kerala House at New Delhi on 29 June where thousands of people paid homage to him. Later in the evening it has been handed over to the anatomy department of AIIMS, for the use of medical students.

Important books: *Cultural History of Kerala* (1977), *Christ and Krishna never lived* (1981), *Quran - a Critical Study* (1982), *Bhagavad Gita - a Critical Study* (1982), *Rationalist State* (1983) and *Upanishads - a critical Study* (2004) and a series of 36 books on world religions (1984-1987).

Joseph Edamaruku's wife Soley Edamaru is the General Secretary of KANFED and Vice President of Kerala Misra Vivaha Sangham. His son Sanal Edamaruku, lives at New Delhi, is a scholar, author of many books, journalist and the President of Indian Rationalist Association. Daughter Geetha, also a journalist, lives in Stockholm.

- S. E.

Government Appointments



Raju Narayana Swami IAS

Raju Narayana Swami IAS
Collector, Kottayam.

K.S. Premachandra Kurup IAS
collector, Malappuram.

M. Beena IAS
collector, Thrissur.



M. Beena IAS

N.A. Krishnankutty IAS
collector, Kasaragod.

Alok Sheel IAS
Secretary (Planning)

S. Sukumaran IAS
Director,
Scheduled Tribes Development.



S. Somanathan IAS

P.B. Sidhardhan IAS
Managing Director – State Scheduled
Castes & Scheduled Tribes
Development Corporation.

Minhaj Alam IAS
Managing Director, Keltron.

S. Somanathan IAS
Managing Director, Handicraft
Development Corporation.

Rani George IAS
Managing Director, State
Cooperative Bank.

V.R. Pillai

Radio is a vibrant and dynamic medium of mass communication. It is an important source of information and entertainment for the people around the world. We tune in to find out what is happening around us at that particular point of time. Thus there is an element of immediacy in the case of radio. Radio in a way, prepares us for the day, by providing us the latest news along with weather and traffic updates in the morning.

Radio has been through many ups and downs ever since its inception more than 80 years ago. Pessimists have been busy writing its obituary. But it has survived. It has survived competition from the mushrooming satellite TV channels. The globalisation of the media industries and the development of new communication technologies are taking place at an unprecedented pace. Radio has to reinvent itself to face the

Radio is a powerful tool for social change, especially in developing countries like ours. AIR's role as a public service broadcaster has become all the more important with the opening up of FM to the private sector.

new challenges because more and more information and entertainment options are available to the people now. It is interesting to note that die-hard radio listeners still think that radio with its innate strength and survival instinct will continue to be an integral part of our lives.

All India Radio remains one of the largest media networks in the world. With just 27 bulletins in 1940, AIR now broadcasts over 360 bulletins in 24 languages and 57 dialects daily. There are 45 Regional News Units across the country broadcasting 136 bulletins every day. News and news-based programmes are aired by FM Gold from Metros and FM Rainbow from other regional centres. All India Radio with more than 200 stations and 152 FM transmitters, covers 91.42 per cent by area and 99.13 per cent of the population. The countrywide reach which AIR enjoys gives it a special status as the public service broadcaster. This gives radio more responsibility for objectivity, accuracy and good taste in news broadcasts. Again, the instant transmission of news simultaneously in several languages in numerous bulletins, day

A synonym for Objectivity and credibility

Why AIR news bulletins enjoy a high level of acceptability



in and day out, makes it amply clear that radio should follow the highest criteria of accuracy and responsibility.

All India Radio follows certain guidelines to make its news broadcast objective and unbiased. Its main source of news is its own regular correspondents at home and abroad. Besides, there is a vast network of district-based part-time correspondents. Reporting news has to be factual and a clear distinction has to be made between news and views. Of course there are views that make news. These views must find a place in the bulletins. There is no editorialising in news broadcast. While handling political stories care is always taken

not to have any bias in favour of one party or another. Speculative stories are strictly avoided. While reporting political controversies, different points of views should be covered. AIR correspondents take great care in reporting communal or caste violence. Facts and figures are never given without full verification. Statements and views that help diffuse the tense situation on such occasions, are always highlighted in the radio bulletins. These observations will answer the often repeated question how AIR news enjoys a high level of credibility.

Despite maintaining high standard of objectivity and never sacrificing accuracy for speed, AIR news is facing new challenges.

According to one survey, news listening on the primary channel is on the decline except in the North East. FM with high quality disturbance-free stereophonic sound holds the key to revive radio in the country on a massive scale. FM has become the most preferred mode of radio transmission all over the world. AIR FM must relay all the existing bulletins now available on the primary channel. Short duration hourly updates on the primary as well as FM will attract more listeners. Happily, the Government is going ahead with FM Phase – II under which more than 300 frequencies are offered in the private sector in 90 cities. This, in a way, is a follow-up of the landmark judgement of the Supreme Court on February 9, 1995 declaring the airwaves as public property. Though the opening up of FM to the private sector has been widely welcomed, the Government's reluctance to allow the private FM to air news and current affairs programmes has come under severe criticism. At the same time, media experts think that it is only a question of time before the matter is settled in favour of the private FM.

Radio is an inexpensive medium in terms of production and management. Radio sets are comparatively cheap. When it comes to radio listening illiteracy is no barrier. Radio is a powerful tool for social change, especially in developing countries like ours. AIR's role as a public service broadcaster has become all the more important with the opening up of FM to the private sector. It has to come up with a variety of high quality creative programmes to meet the new challenges. Whether the private FM will go the MTV- V Channel way, moving away from the people, is anybody's guess. If that happens there is every possibility of radio being hijacked by the elite. ■

The writer is former Director (News) AIR, Thiruvananthapuram

K. Thomas Poullose

Thiruvananthapuram, undoubtedly one of the cleanest and most beautiful of cities in India was noted for its picturesque landscape, captivating hills and valleys with gently undulating terrain, luxurious vegetation, abundance of trees with flowers of variant colours and the glorious heritage of several magnificent buildings, is more than a century old. But unfortunately there had been progressive neglect and disregard and consequent deterioration of the city's growth.

The Master Plan prepared with a perspective vision, envisaged a guided, controlled and orderly growth of the city, for a horizon period of 20 years from 1966. The total rough cost was reckoned as Rs.100 Crore, at price levels then prevailing. Among the main proposals aimed at keeping the city functional and beautiful were:

- widening of the present M.G. Road to 27 meters

acquisition of the entire Kanaka Nagar of today which did not exist then) the Kanakakunnu Palace premises, PHED land extending up to Vellayambalam, the Observatory Hill retaining the developments then existed, the entire Water Works park and the whole Keltron Hill. It was even thought of connecting the observatory hill and Kanakakunnu palace compound by a rope -way for recreation and promotion of tourism.



The Capital Awaits

- enabling a six lane divided carriage- way with minimum 2.5m
- wide foot-paths on either side and widening and improvement of a good number of roads including Peroorkada-Thampanor Road via Vellayambalam Thycaud and Kochar road
- Ulloor-East Fort Road via Pettah, three connecting link roads to the proposed N.H. By-Pass etc.

The proposals conceived a circular cum radial pattern of road network.

At the time of preparation of the master plan there were nearly 2000 acres of land classified as paddy fields and wet lands. It was categorically recommended that this entire low lying area should be retained as such with an objective to contain the flood waters.

Further, it was clearly spelt out that the area under parks and open spaces should be increased from the then existing 140 acres to 1200 acres. It was proposed to develop a District Park and recreational area comprising of the Museum, the Zoo (with additional

Every Citizen of Thiruvananthapuram knows what has happened in spite of the statutory master plan, sanctioned by government. Violations galore and unending manipulations have taken place, mostly with the connivance of the Government and the Corporation, thereby defeating the very purpose of the plan and disfiguring the city.

It is worth mentioning here that in 1966 there were hardly 8000 registered vehicles in the whole of Thiruvananthapuram District. Today it is more than 3.5 lakh, nearly fifty - fold increase in 40 years. Yet we have the same roads; with minor improvements, here and there. Is it not similar to asking your son to wear the same shirt stitched when he was five, also when he is fifteen?

Part of the last paragraph of the report accompanying the Master Plan is pertinent to be quoted here. It reads "The plan has been prepared flexible enough to absorb the future imperatives. Peoples' Participation is the touch-stone of success in planning and plan implementation. The plan, while

aiming at comfort, convenience and security of the people, inflict certain benevolent disciplines on them. The interests of the community as a whole should be considered paramount over the interests of the individuals, while implementing the plan."

The report meaningfully continues. "Conditions in future could be entirely different from what we have today. The trend of Urbanization in India has been slow till now (1960). This is the time for us to take advantage of the experiences relating to the problems of urbanization faced by other countries and to avoid the mistakes they have committed and to learn from the knowledge they have gained. In preparing this plan, we have tried to understand what has gone into the past and what is coming in the future. This plan is endowed with the necessary amount of resilience and flexibility to take future shocks and jolts to some extent, but not wanton violations and deliberate deviations". The above extracts speak for themselves. We know very well as to what was planned to be achieved and what has been really achieved till today.



We are very good at criticizing even minor pitfalls but often fail to recognize and appreciate good performance. Further, if the interest of the whole City is jettisoned by a few self-centred individuals, the majority keep silent onlookers without even raising a word of protest. At the same time we are experts to organize hour long Jathas and Dharnas even for minor matters, creating untoward nuisance and hardships to the innocent public.

Along with the improvement of the roads, planting of trees and landscaping are also undertaken. The trees and plants planted are properly guarded, nursed and watered with good care. If one passes through

Urban Renewal

Disparaging indifference on the part of the authorities, followed by powerful pressures and influences from vested interests, have stimulated disastrous violations and deviations from the plan provisions. Political will and courage are inevitable for the success of any plan. But the scandalous nexus between the profit mongering business community, the politicians, officialdom, land owners and those occupying buildings and premises at very low rents, have scuttled the plan implementation and caused inordinate delays. Obscurantistic Politics and obstructive attitude of some people had always been a bane in the city's planned development.

Land acquisition no doubt was the main hurdle and continues to be so. But Governmental interference and sometimes even court interventions have created considerable delays. Without land no development is possible. Unless the above mentioned nexus is rooted out by enactment of special laws, physical planning and planned development in the state

would be greatly jeopardized.

It is indeed gratifying, that in 2002 the then Chief Minister took special interest to develop Thiruvananthapuram, befitting its status as a capital city. As a result, a scheme to renovate and refurbish 14 important road corridors was evolved and necessary plans got prepared by a firm named Consulting Engineering Services. As part of this scheme, the stretch of the road from Kowdiar to Vellayambalam has been fully renovated, improved and beautified. It was inaugurated by then Chief Minister on 27-02-2006. All the works were carried out by a private firm named, Punj Loyd at an amazing speed. It is gratifying to note that the olden days of disgusting scenes of bitumen and metal being heated and melted at the foot of the avenue trees and the hapless workers wearing improvised boots made of sack and appearing like ghosts on a new-moon night, working in scorching sun, appear to have ended. The Kowidar-Vellayambalam road has indeed undergone a dramatic metamorphosis into a beautiful boulevard in the city.

the air port road near Shanghumughom, in front of the Air Force Office, a fascinating sight of recently planted bougainvilleas of diverse colours at full bloom can be seen. As one who had prepared the first Master plan for the development of the City, forty years back and waited with frustration, grief and distress on its non-implementation, I have every reason to be happy and satisfied with the recent developments, although they are only fractional. Fractional because, improvement of the roads is only one among the myriads of problems of the City.

Thiruvananthapuram has been selected by the Central Government as one among the 63 cities for Urban renewal with generous assistance. Let us hope that a holistic approach would be invoked with a new perspective development plan for the city, prepared and implemented and thus make Thiruvananthapuram a real "Gods own City and a City Beautiful, and the proud capital of Gods Own Country." ■

The author is Chief Town Planner (Retd) And President, Jawahar Nagar Welfare Association, Kowdiar, Thiruvananthapuram