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Kasturirangan Report: MoEF to consider suggestions on ESAs in Western Ghats

The Ministry of Environment and Forests (MoEF) will consider recommendations of all six states in the Kasturirangan report about Ecologically Sensitive Areas (ESA) in the Western Ghats.

The Kerala Government is of the view that agricultural areas and residential areas may be kept out of the ESA. The memorandum of MoEF dated March 10 said that since Kerala was the only state which undertook demarcation of ESAs, the ministry has decided to issue a draft notification of these areas based on that recommendation. Agricultural land, plantations and habitations will be kept out of ESAs in the state. The memorandum added that the ministry will consider recommendations of other state governments if they undertake the exercise of demarcating ESA by physical verification and submit the proposal to MoEF. It will also seek

stakeholders' comments about the draft notification on the demarcation of ESAs. The Ministry of Environment and Forests has notified that the Ecologically Sensitive Area (ESA) in Kerala is spread over an area of 9,993.7 sq km only. This includes 9,107 sq km of forest and 886.7 sq km of non-forest area. Earlier, the High Level Working group appointed by the ministry had identified 13,108 sq km as the ESA, which included 123 villages of the state that are densely populated. The fresh notification issued on March 10 largely agreed with the report submitted by the expert committee headed by Dr. Oommen V. Oommen appointed by the Kerala Government to study the Kasturirangan report. The committee had undertaken an exercise of demarcating the ESA in the state by physical verification and to assess ground level information. It had also set up panchayat level committees in the 123 villages falling within the ESA. The maps already prepared by the panchayat level committee will be further demarcated using cadastral maps which shows boundaries and ownership of land. These maps will be scrutinised by state level expert committee appointed by the Govt. of Kerala before submitting to MoEF.

State Biodiversity Awards Distributed

Environment Minister Thiruvanchoor Radhakrishnan distributed the State Biodiversity Awards 2013 during the function held at Thiruvananthapuram on February 19th 2014. K. Muraleedharan, MLA presided over the function. Dr. Oommen V. Oommen, Chairman, Kerala State Biodiversity Board, Board member Dr. K. Mohana Kurup and Dr. K. P. Laladhas, Member Secretary spoke on the occasion.



The award for protection of traditional knowledge was bestowed posthumously to Veeramal Vaidyar, a traditional healer from Vattalakkiiyoor, Attappady, who won wide acclaim for her herbal cure for cancer and infertility. Veeramal's husband Rangan received the award on her behalf. Kalloor Balan of Palakkad received the award for environmental conservation while A.V. Purushothama Kamath, Kochi was awarded for protecting native crops and medicinal herbs. C. Narendranath, Kottarakara (Organic farming), M. Brahmadathan, Pattambi (Conservation of native livestock breeds), Government Higher Secondary School, Kottila, Kannur (The best school), Sasidharan Mangathil, Chief Sub-Editor, Mathrubhumi, Kozhikode (Environment journalist- Malayalam), G. Prabhakaran, Principal Correspondent, The Hindu (Environment journalist- English) and E.V. Unnikrishnan, Chief Sub-Editor, Mathrubhumi News, Kozhikode (Electronic media) are the other award winners. Presidents of The Iraviperur grama panchayat, Pathanamthitta and Edavaka grama panchayat, Wayanad received award for the best Biodiversity Management Committees. Directors of Malabar Botanical Garden and Periyar Tiger Reserve Foundation received awards for Biodiversity Conservation in the Government sector and Organising Secretary of Santhigiri Asramam, Pothencode was given the award for Biodiversity Conservation in Non-Government sector.

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Diverse food - first line defence against diseases

Kerala, once a land with a wealth of food on our plates is fast changing to a culture depending on retail chain for its daily bread. We have forgotten the reality that we are what we eat and have lost the connection between what we eat and why we eat it.

Decreasing diversity of diets is a threat to health and food security with people forsaking traditional food such as minor cereals, tubers, yams, aroids, pulses, millets, green leafy vegetables and a diverse fruit basket. Indigenous diets are varied and seasonal fruits and vegetables are nature's blessing to mankind. Narrowed fruit and vegetable basket is leading to nutrient deficiency, obesity, anemia, heart diseases and a plethora of lifestyle diseases. Agro diversity is nature's resilience towards climate change and homogeneous global food basket makes agriculture more vulnerable to major threats like drought, insect, pests and diseases. A loss of diversity

means that more people are dependent on key crops, leaving them more vulnerable to harvest failures. Conservation and use of farmers' traditional varieties and wild crop relatives are critical for broadening the genetic diversity of crops. A varied diet, from a diverse agricultural sector, including a variety of local food and seasonal fruits provides better nutrition and improved health and wellbeing than that provided by nutritional supplements.



Since agriculture began some 12,000 years ago, approximately 7000 plant species and several thousand animal species have been used as human food. Nutritional composition between foods and among varieties/cultivars/breeds of the same food can differ dramatically, affecting micronutrient availability in the diet. Kerala the land

of paddy fields, had rice variety specific to each local ecosystem. The Pokkali and Kuttanadan varieties found in low-lying districts of Kerala are salt-resistant, hence suitable to grow in seawater. The diversity of bananas included medicinal wild banana like *Ensete superbum* (*Kalluvazha*) used by traditional healers to treat diabetes, leucorrhoea, and kidney stone is now on verge of extinction. About 75 rice varieties were once grown in Wayanad, suited to the land classification and geo-climatic peculiarities. But this has now narrowed to around 15-20 rice varieties. The Kattunaikka community possesses knowledge of 177 wild food species. Roots and tuber crops occupied a prominent place in edible crop diversity. Many of the cultivars of edible *Dioscorea* are no longer available, one more taste forgotten and one more flavour lost.

Diverse food and fruit basket should become our priority. We cannot imitate nature but we can conserve it. We have to teach the next generation to savor these forgotten tastes and smell. Let us not rob them of the joy of enjoying nature's diversity.

Eco-friendly farmers shared their experience at Harithasangamam

Kerala State Biodiversity Board organized a meet of eco-friendly farmers at Thiruvananthapuram on 20th of February 2014. Farmers from different parts of the state attended the programme and shared their views and experiences.

Dr. K. P. Laladhas, Member Secretary, Kerala State Biodiversity Board inaugurated the function. The programme began with a seminar. Dr. R. Gopimony, former Professor and Head, Kerala Agricultural University was the moderator. Dr. S. Leena Kumari (Indigenous Paddy Varieties of Kerala), Dr. N. Sudhodanan (Traditional Cattle Breeds of Kerala) and Dr. P. Kamalasan Pillai (Organic Farming) delivered their

presentations and interacted with the farmers. This was followed by the session in which farmers shared their views and experiences in eco-friendly farming. Chandran master (Thrissur), Andrews Elias Vayalil (Kottayam), Narendran (Karunagappally) and Narendranath (Kollam) were among the farmers who described their traditional knowledge and experience. Prominent farmers were honoured by presenting mementos. About 300 farmers attended the event.

This is the second time that Kerala



Chandran Master, farmer from Thrissur speaking at Harithasangamam

State Biodiversity Board is conducting Harithasangamam of eco-friendly farmers, which is one of a kind event in the state.

“The more clearly we can focus our attention on the wonders and realities of the universe about us, the less taste we shall have for destruction.” - **Rachel Carson**



Dr. Oommen V. Oommen
Chairman, KSBB

What is a fish without a river? What is a bird without a tree to nest in? What is an Endangered Species Act without any enforcement mechanism to ensure their habitat is protected?

India has put into place a legislative and policy governance framework designed to conserve biodiversity. Protected areas and community based conservation are the two major streams of governance models attempted globally for biodiversity conservation.

Conservation initiatives have largely focused on understanding natural ecosystems such as forests in protected areas. There is a perceptible shift now from the earlier 'PA-Centric' approach to the new 'Landscape-Centric' approach by actively involving local community in conservation. Over the last several years, it has been acknowledged that protected areas alone cannot conserve species and

To conserve or plunder

ecosystems as islands in a matrix of other forms of landuse. Thus the concept of ecologically sensitive areas and community conserved areas has led to newer models for conservation at the landscape level. Ecologically Sensitive Areas (ESAs) have been identified and notified by MoEF since 1989 under the Environment (Protection) Act 1986. ESA is a category of conservation areas that is more flexible and open than Protected Areas. Protected areas provide for extensive, heavy and rigid restrictions with no scope for adaptive management or involvement of local community. ESA on the contrary provides a people-centric protection which is flexible, adaptive regime of regulation based on sustainable development for those areas which face pressures beyond their resilience power and are thus vulnerable to ecological degradation.

Western Ghats, a UNESCO world heritage site, is a treasure trove of diverse life forms and vegetation type right from a closed canopy of moist evergreen forest to lolling shola grasslands. They constitute the water tower of peninsular India, providing water to 245 million people. The overall environmental status of the

Western Ghats is now seeing a rapid change in landscape elements as rivers have trickled down to seasonal rain drains, forests into townships and the lofty hills to quarried pits. The fragile ecosystem of Western Ghats is getting fragmented day-by-day and is now in danger due to large-scale deforestation and unsustainable demands on bio resources due to mining activities. An ecosystem such as the Western Ghats comprises both people and the ecology. The decentralized governance model proposed by ESA opens up possibilities for making biodiversity management more responsive to ecology and livelihood needs of the dependent communities. A complementary strategy for biodiversity governance has to be implemented for conserving the range of diversity existing within the protected areas and those outside the protected areas. These ecologically sensitive areas must be identified and managed in order to form a corridor through a network for maintaining the genetic diversity of flora and fauna and to stem the onslaught of unsustainable development in the Ghats.

We have reached a point of no return, and the choice is ours - To plunder or conserve.

Wildlife day celebrated world-wide



**WORLD
WILDLIFE DAY**
3 MARCH

World celebrated the first ever World Wildlife Day on March 3, 2014. World Wildlife Day gives the international community a day to celebrate wildlife, to reflect on the relationship between humans, wild plants and animals, and to find pathways for a sustainable future where people and wildlife can coexist in harmony.

On 20 December, the UN General Assembly proclaimed 3 March, the date of the adoption of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), as World Wildlife Day to celebrate and raise awareness

of the world's wild fauna and flora.

People around the world have clearly embraced the Day. Overwhelming support for World Wildlife Day has come from countries across all regions and organisations dealing with agriculture, development, nature conservation and maritime matters to customs, justice and police as well as the economy, finance, trade and tourism. Civil society groups from across the globe and many committed individuals have also expressed their enthusiastic support for wildlife as has the private sector.

"While the threats to wildlife are great, we can reduce them through our collective efforts. On this inaugural World Wildlife Day, I urge all sectors of society to end illegal wildlife trafficking and commit to trading and using wild plants and animals sustainably and equitably", U.N. Secretary General Ban Ki-Moon said on the World Wildlife Day.

For conserving wildlife, we can do our part too. Always be an informed consumer and make sure that your purchases are legal and won't be harmful to wildlife populations. And tell your friends and family to do the same.



KSBB EVENTS

◆ National Conference on Biodiversity was conducted from 16th to 18th January 2014 at Science city Auditorium, Kolkata. The NCB 2014 was jointly organized by West Bengal State Biodiversity Board and National Biodiversity Authority. The conference served as a platform for the get together of administrators, scientists, conservationists and environmentalists to communicate with each other in their endeavor to protect the environment. The main themes of the conference were; Animal Diversity, Plant Diversity, Biodiversity conservation, utilization and biopiracy, Genetic molecular diversity and Biotechnology, Microbial and Plankton diversity, Bioresources, Ethno biodiversity, Livelihood generations and Climate change and Biodiversity. The conference was attended by Dr. Oommen V. Oommen, Chairman, KSBB.

◆ The NBA aided project “Awareness and familiarization on Biodiversity conservation and sustainable use to school students based on PBR” was officially launched on January 26th 2014 by the Minister for Education P. K Abdu Rabb at Peruvalloor government higher secondary school, Malappuram. Minister for Social Welfare and Panchayat, Dr. M. K. Muneer released the PBR of Peruvalloor panchayat during the function. K.N.A.Khader, MLA presided over the function. Chairman, Local self government commission Kutty Ahammed Kutty, Panchayat president Kunjapootty Hajee and Chairman, KSBB Dr. Oommen V. Oommen were the other dignitaries present.



Minister for Education P. K Abdu Rabb inaugurating School Biodiversity Awareness Programme

◆ BMC empowerment programmes were conducted through district panchayats for strengthening and capacity building of BMC. The programmes were aimed at creating awareness about the roles and responsibilities of BMC, duties as Environmental watch group, identification of local environmental problems and solutions, strategies for implementation of PBR derived projects and accountability of BMC.

◆ As part of the NBA aided project “Awareness and familiarization on Biodiversity conservation and sustainable use to school students based on PBR” the following programmes were conducted: One day orientation programme at 25 selected gramapanchayat for BMC’s, student volunteer leaders, NGO’s and teacher co-ordinators, District level orientation workshops for teacher co-ordinators in 5 districts and One day training for student volunteers leaders for PBR data collection at 25 schools.

◆ Chairman and Member Secretary of KSBB attended the meetings of State Biodiversity Boards on 20th and 21st January at Chennai organized by NBA to discuss the progress of various SBB’s in implementation of Biodiversity Act and Rules at State level and to discuss the emerging issues.

◆ The Boat house at Vallakkadavu, one of the stately heritage monuments dating back to Travancore era used by the stately barges of the Travancore kings has been handed over by the District Tourism Promotion Council to KSBB. The renovation work of the building and premises being undertaken by Nirmithy Kendra is in progress. The Boat house will be developed into a state of art Biodiversity museum with galleries depicting the diverse ecosystems and flora and fauna of the state.

◆ Chairman, KSBB, Dr. Oommen V. Oommen was awarded H.G Philipose Mar Eusebins memorial Best Scientist Award 2014 for contributions towards life science and research by Catholicate College, Pathanamthitta, Kerala.

◆ The KSBB documentary “Mangroves - Forests of the Tide” directed by Suresh Elamon received special Jury mention in category Biodiversity of CMS Vatavaran Awards, 2014.

◆ KSBB documentary “The Black Beauties of Attappadi” directed by G.S.Unnikrishnan was screened in the Rashtriya Vigyan Chalachitra Mela organised by Vigyan Prasara at Bangalore on January 29th, 2014.



RED LIST

Red Sandalwood *Pterocarpus santalinus*

The Red Sandalwood (*Pterocarpus santalinus*) is restricted to the southern parts of the Eastern Ghats; occurring in dry deciduous forests. Belonging to the family Fabaceae, it is endemic to India and considered globally endangered, with illegal harvest being a key threat.

The tree is 10-20 m tall with blackish-brown bark. Leaves are imparipinnate; leaflets 3, rarely 5, 4.5-10 x 3.2-6 cm, elliptic or orbicular-elliptic, thick-coriaceous, apex obtuse and slightly emarginate, margins entire, base rounded. Flowers yellow in short, axillary racemes. Pods winged, 3-5 cm in diam, obliquely orbicular, ripens brown. Seeds 1 or 2, 1-1.5 cm long,

dolabriform, coriaceous, reddish-brown.

A prohibited item for export, red sandalwood is a banned item in the list of Convention on International



Red Sandalwood

Trade in Endangered Species of Wild Fauna and Flora (CITES). It is a rare and valued item for traditional medicines and woodcraft across China, Myanmar, Japan and East Asia. The tree is commercially valuable for its timber and for the extraction of dye, medicine and cosmetics. The red wood yields a natural dye, Santalin, which is used in coloring pharmaceutical preparations and foodstuffs. In the traditional system of medicine, the decoction prepared from the heartwood is attributed various medicinal properties.

Red Sandalwood smuggling has been going on for a long time, but has increased substantially in the past few years.

March 22, 2014 - World Water day Theme: Water and Energy

Water and energy are closely interlinked and interdependent. Energy generation and transmission requires utilization of water resources.

As the world is already staring at impending water crisis due to climate change, population increase and pollution, a UN report has predicted that as many as 3.4 billion people will be living in "water-scarce" countries by 2025. It also pointed out that the situation will be deteriorated further in the next 25 years (by 2050), culminating into instances of human conflicts in many parts of the globe. The report, published on the eve of the World Water Day, indicated that the Indian sub-continent may face the brunt of the

crisis where India would be at the Centre of this conflict due to its unique geographical position in South Asia.



Facts, shared by India's ministry of water resources reveal that the country which has 18% of the world's population has only 4% of the total usable water resources. Official data show that the annual per capita availability of water has already been decreased in the past

10 years (from 1,816 cubic meter in the year 2001 to 1,545 cubic meter in 2011). As the country is heading for acute shortage when annual per capital availability of water will further reduce to 1,140 cubic meter by the year 2050, experts on the occasion of the World Water Day called for urgent action to deal with it.

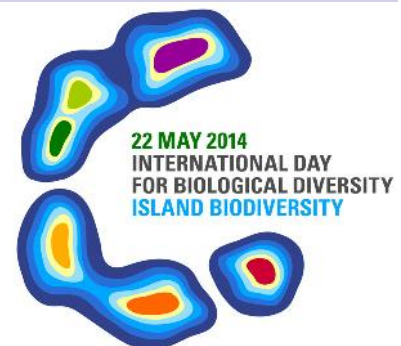
UN aims to facilitate the development of policies and crosscutting frameworks that bridge ministries and sectors, leading the way to energy security and sustainable water use in a green economy. Particular attention will be paid to identifying best practices that can make a water-and energy-efficient 'Green Industry' a reality.

Upcoming Event

International Day for Biological diversity 2014

Island Biodiversity is the theme of this year's International Day for Biological Diversity which will be celebrated on May 22nd 2014. .

Islands and their surrounding near-shore marine areas constitute unique ecosystems often comprising many plant and animal species that are endemic-found nowhere else on Earth. The legacy of a unique evolutionary history these ecosystems are irreplaceable treasures. They are also key to the livelihood, economy, well-being and cultural identity of 600 million islanders, one-tenth of the world's population. Global warming has made small low-lying islands into sinking ships. They could become uninhabitable as saltwater contaminates drinking water supplies.



ECO HEROES

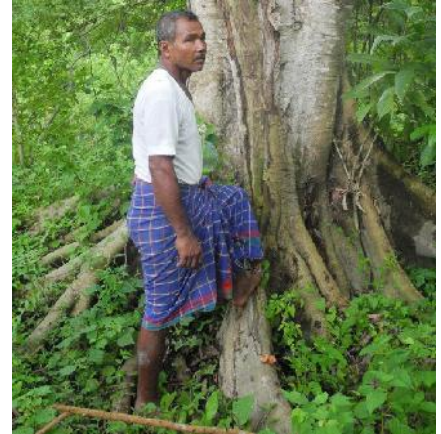
Jadav's own forest

Jadav Molai Payeng turned a barren sandbar in northern India into a lush new forest ecosystem.

Three decades back, Jadav Payeng began burying seeds along a barren sandbar near his birthplace in Assam to grow a refuge for wildlife. Not long after, he decided to dedicate his life to this endeavor, so he moved to the site so he could work full-time creating a lush new forest ecosystem. Incredibly, the spot today hosts a sprawling 1,360 acres of jungle that Payeng planted - single-handedly.

It all started way back in 1979, when floods washed a large number of snakes ashore on the sandbar. One day, only 16 then, found the place dotted

after the waters had receded, Payeng, with the dead reptiles. That was the turning point of his life. "The snakes died in the heat, without any tree cover. I sat down and wept over their lifeless forms. I alerted the forest. They said, nothing would grow there. It was painful, but I did it. There was nobody to help me. Nobody was interested," says Payeng, now 47. While it took years of dedication for materializing the dream forest, it didn't take long for wildlife in the region to benefit from the manufactured forest. Demonstrating a keen understanding of ecological balance, Payeng even transplanted ants to his burgeoning ecosystem to bolster its natural harmony. Soon the shade-less sandbar was transformed into a self-



Jadav in his forest

functioning environment where a menagerie of creatures could dwell. The forest, called the Molai woods, now serves as a safe haven for numerous birds, deer, rhinos, tigers and elephants — species increasingly at risk from habitat loss.

GREEN FINGER

Organic farmer receives IARI Award for his 'Jumbo Yam'

R. Raveendran, an urban farmer from Thiruvananthapuram won IARI Award (IARI - Indian Agricultural Research Institute) for producing a massive African yam weighing 275 kg. This yam has been entered in the Limca Book of Records.

60 year old Raveendran, belonging to Ulloor in Thiruvananthapuram, started his farming career 5 years back after returning from Gulf. Scientists of CTCRI motivated him to cultivate tubers, especially Yam (*Dioscorea rotundata*). Raveendran's wife and two daughters joined hands with him. The family carried out organic farming in their 5.5 cents homestead. Apart from available organic manures, Raveendran prepared organic growth promoters; the use of which he claims is the secret behind the jumbo yams



Raveendran with his jumbo Yam

he has produced. In 2010 Raveendran harvested an unusually big African yam which weighed 275 kg, while the normal weight of the yam at harvest

stage is up to 25 kg only. 2011 Limca Book has listed the yam, as the heaviest of its kind. "It took ten men to lift it onto the truck when I took the yam to the Central Tuber Crop Research Institute (CTCRI) for weighing it," says Raveendran.

Apart from Giant Yams, Raveendran cultivates vegetables on his terrace. Metal frames are constructed on the terrace in which garden pots planted with vegetables are placed. "By placing the pots on these frames, direct contact of pots with the terrace can be avoided. Thus the terrace will be protected from water logging." Says Raveendran.

Raveendran was given innovative farmer award by IARI during the Pusa Krishi Vigyan Mela - 2014 held at New Delhi, for his unique contributions in urban farming.

STRANGE BUT TRUE

Slippery Sleeping Bag

For many coral reef fish, mucus sleeping bags are all part of a good night's rest. Many species of parrotfish and wrasse belch out mucus to build their own cocoons every night, covering themselves in under an hour.

There are many possible explanations for the cocoons: they're an early warning system, they act as a dust sheet, they protect the fish from DNA damage caused by sunlight, the list

goes on. The most popular theory is that the cocoons protect the fish from predators. One recent finding is that the mucus protects sleeping fish, not from the big jaws of eels, but from the little mouthparts of hungry parasites. At night, reef fish are attacked by tiny blood-sucking crustaceans called gnathiid isopods. During the day, cleaner fish help to keep these pests at bay but they don't work at night. So when darkness falls, the fish wrap themselves in a 'mosquito net' of their own making.



Mucus-producing reef fish are the only animals that secrete a covering that wraps their entire body. The ability involves special glands in their gills.



New insect species discovered

*Five new insect species were recently discovered in the Western Ghats, by a team of scientists lead by the late internationally known insect taxonomist Prof. T.C. Narendran during 2013. The new species were found inside the holes of a fallen tree in the Periyar Tiger Reserve in Kerala during a routine exploration of the area that is well-known for its dense forests and picturesque landscape. Three of these new insects have been named, as follows, after the area they were found in: *Metapelma kokkaricum*, *Metapelma periyaricum* and *Calosota idukkiensis*. The fourth insect, *Calosota iochroma*, derives its name from the Greek words that refer to its characteristic metallic pinkish colour. The fifth species, *Tetrastichus demonaxi*, gets its name from the wood-eating, host insect called *Demonaxi decorus*. The scientific paper detailing the discovery was published in the December 2013 issue of the *Samagra*, the journal of the Centre for Research in Indigenous Knowledge, Science & Culture (CRIKSC).

*A new species of fresh water Shrimp, *Macrobrachium abrahami*, has been identified in Vamanapuram river by P. Madhusoodanan Pillai, Registrar and Dean of the faculty of Central Agriculture University, V. Unnikrishnan, teacher of Vembayam Konchira Government School and U. Suresh Kumar of Rajiv Gandhi Centre for Biotechnology. The international science journal *Zootaxa* from Auckland published the morphology and DNA bar code of the new species along with phylogeny.

* A new species of fish belonging to the spiny eel variety was collected from the Manimala river by Mathews Plamoottil, Assistant Professor in Zoology, Government College, Chavara. Named *Macrogathus fasciatus*, the new species is characterised by a combination of dorsal spines, yellow vertical lines on the lateral sides interspersed with small whitish yellow round spots in a row and a small round black spot at the base of the pectoral and caudal fin. It is blackish brown at the back and yellow at the ventral side while the lateral sides are dark brown. The discovery has been reported in the latest edition of the *Journal of Experimental Zoology*.



New insects

'People's Artificial Reefs' for sustainable natural resource management



Artificial reef with fish eggs

For generations, fishermen have relied on traditional knowledge to identify reefs where fishes converge for effective near shore natural resource management. KSBB has initiated a project to enhance fish population by constructing 'People's Artificial Reefs' in the inshore region of the Kannanthura and Valiathura coasts.

The reefs help in recolonization of the coastal waters, provide artificial fish habitat and thereby help in attracting, aggregating and regenerating pelagic, demersal, migratory and residential fishes. An artificial reef develops into a fish habitat when barnacles, algae, oysters, mussels and other sessile organisms colonize these reefs. They provide living space and shelter from predators and a suitable substratum for attachment of eggs and thus serve as spawning ground in addition to functioning as a feeding ground. The reefs were manually

built at about 30 fathoms covering an area of 50 sq mts at a distance of 2-3 km away from the shore using nine unused boats. The boats were sunk along with coconut peduncles to create an underwater habitat for fish with the active involvement of local fisherman. The materials used were such that benthic vegetation could aggregate quickly to ensure ecological succession and a stable ecosystem in the near future. Within four days, local fishermen who had stopped going out to sea because of the falling catch, reported that the area was teeming with fish. As the artificial reefs were deposited in the near shore areas about 2 to 3.5 km from the shore at a depth of 20 to 30 fathoms, fishermen could save fuel and resources for fishing.

An increased biological productivity is indicated by a daily catch worth about Rs.7,000 from the area where the artificial reefs were deposited. Commercially important species like *Caranx sexfasciatus* (Kannan para) and *Stolephorus indicus* (Kozhua) has been netted from the area.



KSBB Chairman Dr. Oommen V. Oommen with traditional fishermen during the launch of PAR

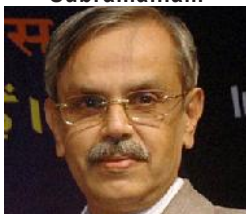
The Dews from Heaven

The water of fresh tender coconut is the most nutritious wholesome beverage that nature has provided for man to fight the scorching heat and to lead a healthy life. You can have this refreshing beverage instead of sugar and calorie laden aerated drinks and fruit juices. It is naturally sterile and so perfect for drinking while traveling, without the fear of contamination.

Tender coconut water contains many of the same nutrients as breast milk including Lauric acid. Lauric acid boosts the body's immune system and is a natural antibacterial. Cytokinins is a group of hormones found in tender coconut water. They stimulate cell division of connective tissue which replaces older, damaged tissue with functionally younger tissue. Anti-cancer effects of cytokinins have been well documented. Coconut water helps maintain our mental concentration and aids in the prevention of headaches by keeping the body's natural fluid levels maintained and the body properly hydrated. Coconut water has been generally offered to patients with diarrhoea in many tropic regions to replace fluid loss from the gastrointestinal tract. Coconut water helps relieve constipation, improves intestinal function and promotes digestive health.



Dr. Bhupathy Subramaniam



Dr. T.C. Narendran

Two veteran Naturalists passes away

Dr. Bhupathy Subramaniam, a well known Indian herpetologist widely praised for his detailed work on pythons and python ecology in India as well as Indian turtles and tortoises, died after falling during a herping expedition in India's Agasthyamalai hills. He was 51. Subramaniam was principal scientist at the Salim Ali Centre for Ornithology and Natural History (SACON) in India and was checking on the progress of a research project when he fell down a hill into a cluster of bamboo. The tragic death of Subramaniam Bhupathy is a drastic loss to the field of herpetology in India.

Dr. T.C. Narendran, internationally known insect taxonomist and recipient of the E.K. Janaki Ammal National Award of the Ministry of Environment and Forests, died of a heart attack. He was 69. He was currently working as coordinator of the All India Coordinated Project on Taxonomy and Capacity Building (hymenoptera) at the Zoological Survey of India after retiring as Professor from the Department of Zoology of the University of Calicut. His research contributions to the science of taxonomy have been substantial in realising the fauna diversity of the parasitic hymenoptera not only of the Indian region but also of other places outside the country. Prof. Narendran's peers have honoured him by naming 25 taxa after him.

The Rain Bird

Pygmy story from South Africa

Long ago the most beautiful bird in the world lived in a thick forest. When she spread her wings, rain fell. When she folded her wings, there was no rain. People honoured the bird with songs, dances, ceremony and story. They offered food as a gift for the bird. Because of this, there was always rain.

But time passed and things changed. People built cities and gardens, houses and walls. They became very busy. So certain people at certain times were chosen to feed the bird. She didn't fail to spread her wings and bring the rain. However, there came a time when people forgot the bird. They thought, it was foolish to believe that a bird could bring rain. People told their children that the story about rain bird was not true.

There came a day when no one sang the song and no one brought food to the forest. So, the beautiful bird, the most beautiful bird in the world, folded her wings and there was no rain. "It will rain soon," people said. But the rain did not fall. There was little to drink and nothing grew. Hunger and sorrow stalked the world.

One day there was a curious child who went walking in the forest. She went to search for water. She saw the most beautiful bird on the branch of a tree. Its



wings were folded. It looked very thin. The child ran home and begged her mother to give her a small piece of bread for the bird. The mother grew tired of her asking, and just to keep the girl quiet, she gave her a small piece of bread.

The girl ran into the forest. She offered the bird the piece of bread. That night there was a little rain. Everyone was pleased. The girl said, "It rained because I gave a bird a piece of bread." They hushed her, "Do not be foolish. That is just a story."

The next day she begged her father, "Please give me another piece of bread. I have to feed the bird so it will rain." This time the father was upset. He took a piece of bread in one hand and a bow and arrow in the other. The girl led the man among the trees. She pointed up to the branches of a tree and showed him the most beautiful bird in the world. The man lifted his bow and arrow and shot the bird. The bird fell to the ground. Suddenly the father also fell to the ground. All the trees fell to the ground. When the girl returned to the village, all the people had fallen to the ground.

Sadly, she went into her house. On the wall was a flute. She took it outside, sat on the earth and sang an old song about the bird in the world that had brought the rain. Hearing the beautiful song, the gods looked down on the earth. The village came back to life. The most beautiful bird in the world also came to life, spread her wings and there was rain. After that no one forgot the bird.