Workshop on

"Biodiversity and Traditional Ecological Knowledge"

Let Us Talk on Biodiversity

05 June 2010
Science & Technology Museum Hall
Thiruvananthapuram

Report

CISSA
Centre for Innovation
in Science & Social Action

Background

Biodiversity and Traditional ecological knowledge is increasingly being sought by academics,scientists, and policymakers as a potential source of ideas for emerging models of ecosystem management, conservation biology, and ecological restoration. It has been recognized as complementary and equivalent to scientific knowledge. Indeed, the United Nations Convention on Biodiversity calls for recognition, protection, and utilization of TEK. New directions in applied biology that have direct parallels and precedents in traditional knowledge include ecosystem management, medicine, pharmacology, agroecology, wildlife, fisheries, and animal behaviour. Biological research is moving to explore these approaches, yet acknowledgment or understanding of traditional ecological knowledge is rare in the student community.

TEK is being recognized as having equal status with scientific knowledge and has been termed the "intellectual twin to science". Traditional knowledge has much in common with scientific ecological knowledge (SEK), which is not surprising since both traditions derive from the same source: systematic observations of nature. Traditional ecological knowledge can be a source of new biological insights and potential models for conservation biology and sustainable development. Examination of traditional ecological knowledge explicitly brings multicultural perspectives into the core of the science curriculum, where they have generally been absent. Incorporation of traditional ecological knowledge into the curriculum can increase the participation of students and practitioners in the scientific community.

In this context, CISSA organised a workshop on the theme "Biodiversity and Traditional Ecological Knowledge" on 5th June 2010. This programme titled "Let Us Talk on Biodiversity" introduced traditional knowledge holders on biodiversity such as tribes, farmers, fishermen, traditional health practitioners etc to the student community for an interaction. The talk was divided into three sessions- Forest Knowledge (Kattarivu), Sea Knowledge (Kadalarivu) and Local Knowledge (Nattarivu)- and each session was moderated by an expert in the field. This unique programme, organised by CISSA, a global partner for celebrating International Year of Biodiversity 2010 of the Secretariat of the Convention on Biological Diversity, was attended by around 300 students from all over Kerala.

Inauguration

Sri C Divakaran, Hon'ble Minister for Food & Civil Supplies inaugurating the seminar

The Minister for Food and Civil Supplies, Shri C. Divakaran inaugurated the programme at Science & Technology Museum Hall, Thiruvananthapuram. The minister opined that celebrations such as the World Environment Day are occasions to inculcate the spirit of environmental conservation among students, who are at present not exposed to the realities of nature. He demanded inclusion of traditional knowledge in environmental awareness programmes as well as curriculum so that the children will be proud of our biodiversity heritage.

The inaugural session was presided over by Shri L. Radhakrishnan IAS, Principal Secretary, Water Resources Department, Government of Kerala. Dr. RV Varma, Chairman, Kerala State Biodiversity Board delivered the key-note address and stressed the need for mobilising the student power and the great treasure of traditional knowledge for preparing People's Biodiversity Register. Dr. A. Biju Kumar, Secretary, CISSA, Dr. S. Rajasekharan, Scientist, TBGRI and Shri Jayakumar, Agrifriends Cultural Association spoke on the occasion.

a view of delegates

Unique Experience.....

The World Environment Day celebrations took on a different dimension when the traditional knowledge holders from various parts of the state explained their close association with biodiversity and the immense knowledge they inherited while living all these years with biodiversity. The scientific interpretations of the traditional knowledge made the programme much meaningful to the student community.

Forest Knowledge-Kattarivu

Dr.S.Rajasekharan,Scientist, TBGRI initiates the discussion

The Kattarivu group that interacted with students included the hill tribes Lakshmikutty, Valakkudy Chandran and EM Sivaprasad and the scientific validation and co-ordination was done by Dr. S. Rajasekharan of Tropical Botanic Garden and Research Institute (TBGRI). While beginning the programme with a “chattupattu”, a devotional song of the Kani tribes, Lakshmikutty said that “Lord Agasthya told our forefathers not to rely fully on hunting for food, as this is against sustainable management of biodiversity. That is why he offered us the musical instrument called “kokkara” so that we lead a life of music, seeking fruits and vegetables from the surrounding”.

The knowledge holders spoke about rare herbs such as “valiya arayan” (Aristolochia tagala), “cheriya arayan (Aristolochia indica) and “palakan” (Humboldtia anjengo) which are widely used to treat snake bites. Dr. Rajasekharan explained that many herbs used by the traditional healers, when later scientifically validated, were found to be very effective in treating a host of human ailments. While answering queries by the students on the modern developmental paradigms, the tribes explained the ecological impacts of increasing number of tourists in forests within the Agasthyamala Biological Reserve.

The traditions are also reflected in a variety of practices regarding the use and management of trees, forests and water. These include, among others, collection and management of wood and non-wood forest produces, traditional ethics, norms and practices for restrained use of forests, water and other natural resources, traditional practices on protection, production and regeneration of forests, cultivation of useful trees in cultural landscapes and agroforestry systems, creation and maintenance of traditional water harvesting systems such as tanks along with plantation of the tree groves in the proximity.

Faculty-Kattarivu(Forest knowledge)-Smt Lakshmikutty, Sri Valakudy Chandran,Sri Sivaprasad

Students interacting with the faculty

Sea Knowledge-Kadalarivu

In this session the students interacted with elderly fishermen, including T. Peter, J.T. John, Joseph Loppus and M. Ambros and the programme was co-ordinated by Dr. A. Biju Kumar, Dept. of Aquatic Biology and Fisheries, University of Kerala. They spoke about different methods of fishing, the flip sides of modern fishing methods, the varieties of fish and techniques for predicting wind direction and water currents.

“Traditionally we had specific nets for different fish, depending on the size of fish, including those for catching anchovies ('netholi vala), sardines ('mathi vala'), etc. With the advent of modern techniques like trawling, the fishes and other creatures are removed from the sea without selection. It also poses irrecoverable damage to the sea bed and reefs” Mr Joseph said.

“The embedded socio-cultural features of the fish economy of Kerala is most evident in the patterns adopted in the sharing of fish harvest, which has direct implication on food and livelihood security of the members of the community; inherent in these patterns of sharing, is a deeply instituted process of care and concern. Traditionally, fishing communities maintained their socio economic ties based on the principle of 'common property resources', despite cultural and religious differences. Though only a small proportion of the fishing community is involved in the labour process to harvest the resource from the sea, the strong socio-cultural concern requires that the benefits accruing from it should be spread as widely as possible in the community which inhabit the fishing villages” said T. Peter.

Just like the aboriginal tribes in many parts of the world who considered earth as the god, for the traditional fish folk in Kerala, the ecosystem that offered everything for their survival has been the 'Kadalamma' or the “sea mother” and there is a popular adage that is even strong today, “Kadalamma chathikkilla” or the “sea mother will not betray”.

Traditional fishers also explained their information on the topography of sea floor for finding out better fishing grounds and ocean navigation by locating stars and constellations. Further, they have the expertise in the waves, currents and turbidity of the sea and locating the movements of fish. The traditional fisher folk believe that presence of dark patches in water with ripples indicates a good catch of mackerel and presence of flipping and splashing noise in the water and series of air bubbles coming from below and bursting at the water surface indicates the presence of good shoals of oil sardine. The fishermen also highlighted the need for understanding the ecosystem connectivity as the productivity of the coastal waters is maintained by the organic matter and nutrients carried by the rivers.

Faculty Kadalalarivu(Sea knowledge)-Sri T Peter, Sri John J T& Sri Joseph Lopez with Dr.A.Bijukumar Moderator

Students interacting with the faculty

a keenly attending audience

Local Knowledge-Nattarivu

The Nattarivu group was represented by Manoharan Nair, Peringavil Sali, Santhoshand Malakhi Nadar and the interactions were moderated by Dr. CR Rajagopal, Director, Nattarivu Padana Kendram, Thrissur. Benefits of organic farming, the importance of traditional crop varieties, traditional agricultural methods, and rearing of fish and honey bees were explained by the farmers. “Farms themselves have domesticated biodiversity essential for survival and subsistence and the only way to store the genetic diversity of rice is by farming them” said Saly, an experienced farmer hailing from central Kerala. Socio-culturally valued species find place in home gardens and courtyards and the discussion highlighted the need for maintaining homestead biodiversity for ensuring food security.

Dr.C.R.Rajagopal, Moderator with Nattarivu Faculty -Sri Malakhi nadar, Sri Santhosh, Sri Manoharan Nair and Sri Peringavil Sali

Dr.C.R.Rajagopal initiating the session with a Folk song

Students interacting with the faculty

Recommendations

The experts co-ordinated the workshop opined that in order to be effective, efforts on biodiversity conservation can learn from the context-specific local knowledge and institutional mechanisms such as cooperation and collective action; intergenerational transmission of knowledge, skills and strategies; concern for well-being of future generations; reliance on local resources; restraint in resource exploitation; an attitude of gratitude and respect for nature; management, conservation and sustainable use of biodiversity outside formal protected areas; and transfer of useful species among the households, villages and larger landscape.

The following recommendations were forwarded during the workshop:

- The traditional knowledge workshops should be organised across the state for the students in order to provide students first hand information about the rich biodiversity of the state. It was decided to form a network of academic institutions, NGOs and R & D centers across the state to share traditional knowledge with students.

- Traditional Ecological Knowledge (TEK) should be validated scientifically and should be used by the academicians, scientists, and policymakers as a potential source of ideas for emerging models of ecosystem management, conservation biology, and ecological restoration.

- Traditional knowledge should be made part of environmental education programmes and part of curriculum in schools.

Speakers in the Inaugural Session

Sri R V Varma, Chairman, Kerala State Biodiversity Board

Sri L.Radhakrishnan IAS , Principal Secretory to Govt.

Dr.S.Rajasekharan Scientist, TBGRI

Sri.S.Jayakumar, Programme Co-Ordinator, Agrifriends

Photo Gallery

Photo Gallery

Media Watch

...ildren to get a feel of ...aditional knowledge

...Special Correspondent

THIRUVANANTHAPURAM: The Centre for Innovation in Science and Social Action (CISSA) is offering schoolchildren an exposure to traditional knowledge in various sectors.

A programme is being organised at the Science and Technology Museum here on Saturday in connection with the World Environment Day.

The event titled "Let Us Talk Biodiversity," will have three sessions—Forest knowledge (Kattarivu), Sea nowledge (Kadalarivu) and ocal Knowledge (Nattarivu). ibal folk and fish workers o possess abundant wledge and experience on subject will share their riences with the stu-

programme is support- the Science and Tech- Museum, Kerala State for Science, Technol- Environment, Envi- Management Kerala, Kerala State ity Board and Agro- ltural Association. for Food and Civil C. Divakaran is

The programme is being organised in connection with the World Environment Day.

scheduled to inaugurate the programme. R.V.Varma of the Kerala State Biodiversity Board will deliver the keynote address.

The Kattarivu group include Lakshikutty, Valakkudy Chandran and E.M. Sivaprasad and the scientific validation and co-ordination will be done by S. Rajasekharan of the Tropical Botanical Garden and Research Institute.

T. Peter, John J.T., Joseph Lopez and M. Ambros will lead the Kadalarivu team and A. Biju Kumar will co-ordinate the discussion. Nattarivu group is represented by Mahoharan Nair, Peringavil Sali, Gauri Kani, Malakhi Dar, Divakara Panikkar Selva Raj and this group be led by C.R. Rajagopa rector, Nattarivu P Kendram, Thrissur.

A press note issued by the organisers here said biodiversity and traditional ecological knowledge were increasingly being sought by academics, agency scientists, and policymakers as potential ideas for emerging ecosystem manage... servation biology, ical restoration... The United Nations ...vention on Biodiversity ... for recogni... and utilisation ... tional ecological ... New direction... biology that ha... lels and preced... tional knowledge ... ecosystem ... medicine, ... agro-ecology, wildlife, ... ies, and animal behavi... ological research is ... explore these appro... acknowledgment o... standing of the tradi... ological knowledge is ... the student communi... The traditional ec... is being ...

sunday express

THE HINDU SATURDAY, JUNE 5, 2010

For a change, tribals, fishermen take classes for school kids

Express News Service
T'Puram, June 5

THE Environment Day celebrations took on a different dimension on Saturday at the Science and Technology Museum here, when the traditional knowledge holders such as farmers, fishermen and tribals from various parts of the State explained to the school students certain basic truths on ...w the hills, the rivers, the clouds, ...nd and the rains are connected ...a and how and why the var... ...s need to be protected - ...iversity.

...ons of the pro... ...od Minister ...ttupat... ...ds of t...

Curio... among the c... nying traditiona... the kokkara.

The tribals let a few c... up close and explained that t... medicinal practices were all half ... icine and half prayer.

Hundreds of city school students gained a lot of traditional knowledge and their scientific interpretations, thanks to a unique programme, 'Let us talk biodiversity' organised by the Centre for Innovation in Science and Social Action (CISSA) on the occasion of the World Environment Day.

Of the three sessions on biodiversity, the first one, 'kattarivu', was on forest knowledge, where the kids got a wonderful exposure to the world of forest-dwelling tribals, medicinal plants, wild animals, pollution, dwarf elephants and even spiders from the interactions with traditional medical practitioners Lakshmikutty from Mottamood, her son Prasad and Chandrankani.

RARE EXPERIENCE

The children got to see the pictures of the very rare plants like Amrithapala, which is supposed to have amazing curative powers, according to the tribal lore.

They also saw slides of 'valiya arayan' or Aristolochia tagala, 'cheriya arayan' or Aristolochia indica and Palakan or Humboldita anjengo, which Lakshmikutty said are widely used to treat snake-bites.

EXPRESS

Lakshmikutty from Mottamood, a tribal healer talking to the school students as a part of the 'Let us talk Biodiversity' programme. Chandran Kani and Prasad are also seen

The scientific interpretations of the traditional knowledge made the sessions very meaningful for the kids

from TBGRI, who co-ordinated the event said that the research has found that Amrithapala has been found to be effective for ulcers and cancer-like afflictions. He also said that many diseases such as arthritis and cancer and lifestyle diseases are unheard of in the tribal hamlets.

The scientific interpretations to the traditional knowledge made the sessions very meaningful for the kids.

SEA-KNOWLEDGE

The session on sea-knowledge 'kadalarivu' was not just limited to the sea. Fishermen John J T, Joseph Lopez and M Ambrose talked to ... about the coral reefs, ... and depletion of fish ... nature of the wind, nature of the ... intricate relationship with each other. "What the fish in the sea feeds on, are the dead leaves and other organic matter that essentially comes from the hills through the rivers and the leaves of mangroves that abound the coast," said Joseph.

Echoing what Joseph said on the interconnections between the various elements of nature, co-ordinator A Bijukumar, a scientist from the Aquatic Biology Department of the University of Kerala, pointed out the possibility of a massive decline in the fish population of the State, if and when a river dries up.

The fishermen also gave a detailed description about how clouds in the western horizon with a white streak of cloud running across along with a white sheen on the sea surface would surely mean rain and how the high crest of waves in the south to north direction would mean a rough sea.

The Nattarivu group was represented by Mahoharan Nair, Peringavil Sali, ... Malakhi Nadar, Divakara ... Selva Raj and this group ... C.R. Rajagopal, director, ... Nattarivu Padana Kendram, Thris...

...ge of rustic knowledge

STRAIGHT TALK: Tribal healer Lakshmikutty, Valakudy Chandran Kani and Sivaprasad E.M. at an interaction with schoolchildren in the city on Saturday. – PHOTO: S. GOPAKUMAR

...RAM: "We are ...g our rare ...countries ...y out of it. ...y money ...reigners ...mikut... ...healer ...e on ...are ...al ...e ...Kaattarivu' session where ...ey shared with the students ...ges and the Agasthyakoo... forests. ...ey spoke about rare ...such as Amritapala, ...ayan, Malayarayan ...kam, and its as... medicinal values. ...o queries, they said ...sm and develop... fected the forests ...al resources and ...ople, the keep... ...came refugees ...d 'Vandalism ...ism' mostly. ...

Tourist, mostly youngsters, think they can do anything in the forests," she said.

"Agasthya Muni told our forefathers not to rely on hunting for food. He asked us to feed on the fruits and nuts available aplenty in the forest instead of killing animals," Lakshmikutty, who has also authored books on herbs and tribal medicinal practices.

In the session on 'Kadalarivu' students interacted with traditional fishermen ... J.T., Joseph Lopez and Am... brose. They spoke about ... different methods of ... the flip sides of moderni... ing methods, the varieti... fish and techniques of ... dicting wind direction ... water currents.

"Traditionally, we had spe... cific nets for different types of ... fish, depending upon the size ... With the advent of modern ... techniques like trawling, all ... fish are caught together. It al... so causes irrevocable damage ... to the seabed and reefs," Mr Joseph said. Benefits of orga... nic farming, the importance ... of traditional crop varieties, ... traditional agriculture meth... ods etc., were among the top... ics of discussed in 'Nattarivu' ... Farmers Manoharan Nair, Peringavila Sali, Santhosh and 83-year-old veteran vegeta... table farmer Malakhi Nadar ... were the speakers.

S. Rajashekharan of the Tropical Botanical Garden and Research Institute (TBGRI), A. Biju Kumar of the Department of Aquatic Biology, University of Kerala, and C.R. Rajagopal of Nattarivu Padana Kendram, Thris... sur, were the moderators. The sessions reflected the ...

ലോക പരിസ്ഥിതി ദിനത്തിൽ സെന്റർ ഫോർ ഇന്നൊവേഷൻ ഇൻ സയൻസ് ആൻഡ് സോഷ്യൽ ആക്ഷനും അഗ്രിഫ്രണ്ട്സ് കൾച്ചറൽ അസോസിയേഷനും സംയുക്തമായി ശാസ്ത്ര സാങ്കേതിക മ്യൂസിയത്തിൽ സംഘടിപ്പിച്ച ജൈവ വൈവിദ്ധ്യ വർത്തമാനത്തിൽ ലക്ഷ്മിക്കുട്ടി മൊട്ടമൂട് കാടിനെക്കുറിച്ച് കുട്ടികളോട് സംസാരിക്കുന്നു. ഇ. എം. ശിവപ്രസാദ്, വളകുടി ചന്ദ്രൻ മൊട്ടമൂട് എന്നിവർ സമീപം

തിരുവനന്തപുരം: നഗരത്തിലെ പരിസ്ഥിതി ദിന പരിപാടികൾ മാത്രം കണ്ടിട്ടുള്ള സ്കൂൾ വിദ്യാർത്ഥികൾക്ക് കാട്ടിൽ നിന്ന് വന്ന ആദിവാസികൾ ജൈവ വൈവിദ്ധ്യത്തെക്കുറിച്ച് പറഞ്ഞുകൊടുത്തപ്പോൾ അത് പുതിയ അനുഭവമായി. പരിസ്ഥിതി രംഗത്ത് പ്രവർത്തിക്കുന്ന "സിസ്റ്റ്" എന്ന സന്നദ്ധ സംഘടനയാണ് ശാസ്ത്രസാങ്കേതിക പരിസ്ഥിതി കൗൺസിലിന്റെയും ജൈവവൈവിദ്ധ്യ ബോർഡിന്റെയും സഹായത്തോടെ ശാസ്ത്രസാങ്കേതിക മ്യൂസിയത്തിൽ "ജൈവവൈവിദ്ധ്യ വർത്തമാനം" എന്ന പരിപാടി സംഘടിപ്പിച്ചത്.

കാട്ടറിവ്, നാട്ടറിവ്, കടലറിവ് തുടങ്ങിയവയെക്കുറിച്ചായിരുന്നു സംവാദം. വാമനപുരം പുഴ ഉദ്ഭവിക്കുന്ന മൊട്ടമൂടിലെ എൺപത്തേഴുകാരിയായ ആദിവാസി സ്ത്രീ ലക്ഷ്മിക്കുട്ടിയാണ് കാട്ടിലെ ജൈവവൈവിദ്ധ്യത്തെക്കുറിച്ച് ആദ്യം സംസാരിച്ചത്. "കൊക്കരെ" എന്നു ഉപകാരിയായ പാലുതരുന്നതിനെ കൊല്ലില്ല.

സമുദ്രനിരപ്പിൽ നിന്ന് 2000 അടി ഉയരത്തിൽ അഗസ്ത്യകൂടത്തിൽ [illegible] പോൾ ലക്ഷ്മിക്കുട്ടിയുടെ മകൻ പ്രസാദിന്റെ കൂടെ ടി.ബി.ജി.ആർ.ഐയിലെ ശാസ്ത്രജ്ഞൻ ഡോ. രാധാകൃഷ്ണനും കൂടി. പല രോഗങ്ങൾക്കും ദിവ്യ ഔഷധമാണ് അമൃതപാലയും വൻ അരയലും എന്നു പറഞ്ഞപ്പോൾ ഒരു വിദ്യാർത്ഥിനിക്ക് സംശയം. കാൻസറിന് ചികിത്സിച്ചിട്ടുണ്ടോ? ഞങ്ങൾക്കിതുവരെ കാൻസർ വന്നിട്ടില്ല. പുകയില മുറുക്കുന്ന രണ്ടു പേർക്ക് വന്നിട്ടുണ്ട്. കുടൽപൂണ്ണു പോലുള്ള കാൻസറിന് സമാനമായ രോഗങ്ങളെ മാറ്റാൻ കഴിയുമെന്ന് ഡോ. രാധാകൃഷ്ണനും. കാട്ടറിവിന്റെ കൂടെ നാട്ടറിവും കടലറിവും പറഞ്ഞുകൊടുത്തപ്പോൾ വിദ്യാർത്ഥികൾ പ്രകൃതി അനുകൂല ജീവനത്തിന്റെ ബാലപാഠങ്ങൾ പഠിക്കുകയായിരുന്നു. ഭക്ഷ്യ സിവിൽ സപ്ലൈസ് മന്ത്രി സി. ദിവാകരനാണ് രാവിലെ പരിപാടി ഉദ്ഘാടനം ചെ

കേരളകൗമുദി

2010 ജൂൺ 3 വ്യാഴം 1185 ഇടവം 20

ദീപിക

ജൈവവൈവിധ്യ കാവലാളന്മാരുടെ അപൂർവ സംഗമം തലസ്ഥാനത്ത്

തിരുവനന്തപുരം: ജൈവവൈവിധ്യ വർഷ ആഘോഷപരിപാടികളിൽ ഐക്യരാഷ്ട്ര സംഘടനയുടെ ഇന്ത്യൻ പങ്കാളിയായ സിസ്സയും (സെന്റർ ഫോർ ഇന്നോവേഷൻ ഇൻ സയൻസ് ആൻഡ് സോഷ്യൽ ആക്ഷൻ) അഗ്രിഫ്രണ്ട്സ് കൾച്ചറൽ അസോസിയേഷനും സംയുക്തമായി ലോക പരിസ്ഥിതി ദിനമായ അഞ്ചിന് സ്കൂൾ വിദ്യാർഥികൾക്കായി 'ജൈവവൈവിധ്യ വർത്തമാനം' എന്ന പേരിൽ ജൈവവൈവിധ്യ സംഗമം നടത്തുന്നു. കാട്ടറിവ്, നാട്ടറിവ്, കടലറിവ് എന്നീ മൂന്നു സെഷനുകളിലായി കാട്ടിലേയും നാട്ടിലേയും കടലോരത്തെയും ജൈവ വൈവിധ്യ കാവലാളർ അവരുടെ അറിവുകൾ കുട്ടികളുമായി പങ്കുവയ്ക്കുന്നു. വിവിധ സ്കൂളുകളിൽ നിന്നായി 250 ഓളം വിദ്യാർഥികൾ പങ്കെടുക്കുന്ന ഈ സംഗമം രാവിലെ പത്തിന് ശാസ്ത്ര സാങ്കേതിക മ്യൂസിയത്തിൽ മന്ത്രി സി.ദിവാകരൻ ഉദ്ഘാടനം ചെയ്യും. മനോഹൻ നായർ, പെരിങ്ങാവിൽ സാലി, ഗൗരികാണി, മാളിക നാടാർ, ദിവാകരൻ പണിക്കർ,സെൽവരാജ് എന്നിവരാണ് കുട്ടികളുമായി നാട്ടറിവുകൾ പങ്കിടുന്നത്. സംസ്ഥാന ജൈവവൈവിധ്യ ബോർഡ് പ്രോജക്ട് ഡയറക്ടർ ഡോ.വി.ആർ.വർമ മുഖ്യ പ്രഭാഷണം നടത്തും. ശാസ്ത്രജ്ഞരും ഈ രംഗത്തെ വിദഗ്ധരുമായ ഡോ.എസ്.രാജശേഖരൻ, ഡോ.സി.ആർ.രാജഗോപാൽ, ഡോ.എ.ബിജുകുമാർ എന്നിവരും ഈ സംഗമത്തിൽ പങ്കെടുക്കും. ശാസ്ത്ര സാങ്കേതിക മ്യൂസിയം, ശാസ്ത്ര സാങ്കേതിക പരിസ്ഥിതി കൗൺസിൽ, കേരള എൻവയോൺമെന്റ് മാനേജ്മെന്റ് ഏജൻസി, കേരള സംസ്ഥാന ജൈവൈവിധ്യ ബോർഡ്, എന്നിവരും സിസ്സയുടെ ഈ സംരംഭത്തിൽ ഒത്തുചേരുന്നു.

ജൈവവൈവിധ്യ വർത്തമാനം എന്ന ഈ ശിൽപശാലയിൽ പങ്കെടുക്കാൻ ആഗ്രഹിക്കുന്ന വിദ്യാർഥികൾ 2722151 എന്ന നമ്പറിൽ ബന്ധപ്പെടണം.

ജൈവ വൈവിധ്യ കാവലാളുടെ സംഗമം

തിരു: ജൈവവൈവിധ്യ വർഷ ആഘോഷപരിപാടികളിൽ ഐക്യരാഷ്ട്രസംഘടനയുടെ ഇന്ത്യൻ പങ്കാളിയായ സിസ്സയും (സെന്റർ ഫോർ ഇന്നോവേഷൻ ഇൻ സയൻസ് ആൻഡ് സോഷ്യൽ ആക്ഷൻ) അഗ്രിഫ്രണ്ട്സ് കൾച്ചറൽ അസോസിയേഷനും ചേർന്ന് പരിസ്ഥിതി ദിനമായ അഞ്ചിനു സ്കൂൾ വിദ്യാർഥികൾക്കായി ജൈവ വൈവിധ്യ സംഗമം നടത്തും. കാട്ടറിവ്, നാട്ടറിവ്, കടലറിവ് എന്നീ മൂന്ന് സെഷനിലായി നാട്ടറിവുകൾ അനൗപചാരിക വർത്തമാനത്തിലൂടെ കുട്ടികളുമായി പങ്കുവയ്ക്കും.

ഇരുനൂറ്റമ്പതോളം വിദ്യാർഥികൾ പങ്കെടുക്കുന്ന സംഗമം ശനിയാഴ്ച രാവിലെ 10ന് എംജി ജങ്ഷനിലുള്ള ശാസ്ത്രസാങ്കേതിക മ്യൂസിയത്തിൽ മന്ത്രി സി ദിവാകരൻ ഉദ്ഘാടനംചെയ്യും. പങ്കെടുക്കാൻ ആഗ്രഹിക്കുന്ന [illegible]

പരിസ്ഥിതി ദിനാചരണം

സെൻറർ ഫോർ ഇന്നവേഷൻ ഇൻ സയൻസ് ആൻഡ് സോഷ്യൽ ആക്ഷൻ (നിസ) സംഘടിപ്പിച്ച പരിസ്ഥിതി ദിനാചരണം മന്ത്രി സി. ദിവാകരൻ ഉദ്ഘാടനം ചെയ്തു. ജലവിഭവ വകുപ്പ് സെക്രട്ടറി എൽ. രാധാകൃഷ്ണൻ, ജൈവവൈവിധ്യ ബോർഡ് ചെയർമാൻ ഡോ.ആർ.വി. വർമ, ടി.ബി.ജി. [illegible]

derful exposure to the world of forest- from TBGRI, who co-orginated the

A Bijukumar, a scientist from the Aquatic Biology Department of the University of Kerala, pointed out the possibility of a massive decline in the fish population of the State, if and when a river dries up.

The fishermen also gave a detailed description about how clouds in the western horizon with a white streak of cloud running across along with a white sheen on the sea surface would surely mean rain and how the high crest of waves in the south to north direction would mean a rough sea.

The Nattarivu group was represented by Manoharan Nair, Peringavil Sali, [illegible] Nadar, Divakara [illegible] Raj and this group [illegible] Rajagopal, director, Nattarivu Padana Kendram. This

CISSA
Centre for Innovation
in Science & Social Action