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**YOUNG SAHYADRI ECOLOGIST-2016 COMPETITION**

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**DETAILS:** As you are aware India is one of the 12 mega-biodiversity countries of the world. Bulk of the Indian population is directly dependent on biodiversity and ecosystems for almost their entire basic needs: water, food, medicine, clothing housing etc. In India the Western Ghats, along with Sri Lanka, constitute one of the 34 biodiversity hot spots of the world. The Western Ghats are exceptionally rich in plant and animal species and supply nearly 40% of the water needs of the country. Unfortunately due to heavy human pressures this tremendous biodiversity is getting destroyed fast. Water resources are drying up and getting less in quantity for the growing population.

India is rich not only for wild biodiversity but also for the crop species and varieties. We had till fifty years ago over 100,000 local varieties of rice itself, each with its own special characteristics. Over 80% of these ancient rice varieties are today not traceable due to overuse of hybrids and other new varieties. Same is the case with wheat, jowar, ragi, cotton, brinjal, mango, jack, pepper, bananas, tuber crops etc. of which we had very high diversity. Our rich diversity of cattle, buffaloes, goat, sheep etc. are also on the decline.

We have a very rich treasure of medicinal plants and local vaidyas knew how to use them. Most of this traditional knowledge related to medicinal plants and their uses are vanishing due to more dependence on modern medicines. Moreover the traditional medicinal knowledge of the country and the products from our medicinal plants like neem, Sarpagandha, kokam, nelanelli, turmeric etc. are getting patented in foreign countries without any profit to the knowledge holders in this country, who are mostly villagers and forest tribals.

Our forest wealth is getting degraded due to high developmental pressures, encroachments for agriculture, cutting for raising tree plantations, mining, dams etc. As forest wealth declines our water sources become poorer and soils erode. Floods and landslides have increased due to improper use of forests and hills. Most sensitive, endemic plants and animals decline faster than others with forest degradation. As forests are fragmented and plant biodiversity declines animal species like tigers, elephants, deers, lion tailed macaque, birds, amphibians, honey bees etc are also on the decline. Forest decline may be linked to poor quality life in villages and large scale migration to urban areas.

On one side the planet is threatened with climatic change because of air pollution. As sea level is rising slowly low lying coastal areas are becoming increasingly prone to sea erosion. To protect from erosion the government is spending huge money for making expensive stone walls which spoils the beauty of our scenic beaches and seriously affect the functioning of beach as an ecosystem.

From time immemorial our forefathers worshipped gods in specially protected sacred forests like kans and devarakadus, almost in every village of the Western Ghats. Today most of these sacred forests have been cut, reduced to one or few trees in the villages, or became part of reserve forests and lost their special forests. Some became Acacia plantations like Menasi and Akkunji kan in Siddapur. If we study some of these old and well protected devarakans like Karikanamman forest in Honavar or Kathalekan in Siddapur it could be seen that they are full of very rare species of plants and animals.

Realizing this grave situation facing India's biodiversity and the hardships to village and forest people who have maximum dependence on biodiversity the Government of India passed the Biodiversity Act -2002. This Act aims at:

- Conservation of the rich biodiversity of India
- Highlights importance of sustainable use of biodiversity
- Fair and equitable share of benefits from use of bioresources and for using valuable knowledge about biodiversity that our people at grass root level possess.

According to the Biodiversity Act-2002 the Government of India set up National Biodiversity Authority at Chennai. Every State is also required to establish Biodiversity Board to advise the State Government on matters relating to conservation and sustainable use of biodiversity and equitable sharing of the benefits from use of bioresources with the rightful knowledge holders, who may be villagers or even forest tribes.

According to the Act every local body shall constitute a Biodiversity Management Committee for the purpose of promoting conservation, sustainable use and documentation of biodiversity in People's Biodiversity Registers. These local committees should take initiatives in preserving habitats, conserve traditional agricultural and livestock varieties and document all the special knowledge that the local people have about biodiversity.

Karnataka State is the first in the country to set up State Biodiversity Board, which won the award for the best performance for the year 2009-10. The State is also the first to establish Western Ghat Task Force to safeguard the Western Ghats.

The Centre for Ecological Sciences of the Indian Institute of Science has been engaged in various types of ecological and biodiversity related studies in Uttara Kannada for over 25 years, and has made many contributions and guidance related to documentation, sustainable use, conservation of biodiversity etc. Considering this background the State Biodiversity Board and the Western Ghats Task Force have entrusted us with a project to estimate Ecological Carrying Capacity of Uttara Kannada.

Similarly, identifying ecologically sensitive regions in Western Ghats is a very ambitious project and it is our desire that the project should be carried out with the close co-operation and participation of the people. In this regard, recently, we prepared a simple plan for ecological studies at village level with the help of high school students. The plan was carried out experimentally with the participation of students and teachers from about 60 high schools. Students studied individually or in small groups about 120 villages and created a wonderful database under a scheme **Namma Grama Biodiveristy**. Their valuable contribution covers many aspects of village biodiversity, such as

- Traditional crop varieties and their special qualities; names of farmers who are conserving traditional varieties of specially rice, banana, mango, jack, pepper, tuber crops etc.
- Traditional livestock races
- Plant and animal diversity of land and water
- Wild plants used as food in villages
- Medicinal plants and their uses

- Village-wise list of nati-vaidyas specialized in treating diseases of humans and domestic animals
- Local methods of crop disease and pest control
- Information on sacred groves of the villages
- Village-wise database on perennial water bodies
- Village artisans and other knowledge individuals

Students were given opportunities to make presentations of their findings in conferences held at Kumta and Sirsi. About 18 selected students, along with their teacher guides, were selected for presentation of their work before scholars during the Lake-2010 Conference at the Indian Institute of Science, Bangalore during December 2010. All the winners were suitably rewarded. This programme of involving students and teachers in ecological studies have created widespread interest among the academic community and several high schools, junior and degree colleges have expressed interest in taking part in such programmes in the future. Therefore, once again, we are re-introducing this programme to the student community, not only of high schools but also of junior and degree colleges.

The benefits to the student and teaching community are as follows:

- Students and teachers gaining first hand knowledge of biodiversity
- Students become efficient communicators
- Student get exposed to environmental problems faced by villagers
- Environmental education has become part of high school teachers' training programme
- Environmental education is compulsory for the colleges
- Science students of colleges are required to submit student research projects for their examination. The students of biological sciences can utilise their work on village level biodiversity for preparing these reports
- The teachers will be able to familiarise with much of biodiversity and environment in their surroundings and can use such experiences for better teaching
- Teachers (of colleges and high schools) can identify and choose research programmes of their choice related to biodiversity/ecology and get guidance from the scientists of the Centre for Ecological Sciences
- Collaboration with the research team of Indian Institute of Science will earn better ranking for the colleges during NAAC accreditation programmes
- The work under this programme can be considered as extension education and help in spread of environmental literacy in the society.
- The students will be molded into better, eco-conscious citizens in the future.

### Highlights of the competition

The competition will be conducted first at taluk levels and selected students will take part and present their work in Lake 2016 (28<sup>th</sup> to 31<sup>st</sup> Dec 2016). The students who successfully document all aspects of biodiversity (as per format Student's Biodiversity Register) and excel in the presentations, will be honoured with "**Young Ecologist, 2016**" – award.

The proposed programme will involve:

1. Interested institutions are required to send the consent letter to take part in the documentation of biodiversity (on or before 15 August 2016)
2. A copy of the biodiversity register format be downloaded from <http://ces.iisc.ernet.in/energy> at Lake 2016 portal.
3. Orientation programme to train guiding teachers will be conducted in each taluk
4. Students will take part in the documentation of biodiversity of their own villages or any of their choice villages. Only one or two students will study one village.
5. The study may be undertaken preferably during the vacation (October 2016)
6. The institutions will arrange to send the study reports to Indian Institute of Science field station at Kumta (on or before 30 sept 2016) to the address:

**Dr. Prakash Mesta,**

Centre for Ecological Sciences,  
Indian Institute of Science  
Field Station, 679/II, Vivek Nagar,  
Kumta 581343 (Phone 08386-223426)

7. Student competition at taluk level will be conducted during Oct 2016
8. Announcement of the short listed candidates for Lake 2016 during November 2016
9. Finalists will be selected during the **Conference Lake 2016**.
10. All finalists will be given the certificate and memento at the Conference
11. Three students in each category (VIII, IX, X, XI, XII and Degree students), and one teacher (from each taluk) from school and college level will be given special prizes
12. Steps will be taken to publish good quality reports through Karnataka Biodiversity board with the due credit to student, teacher and institution.

We look forward to your active participation in documenting the biodiversity of Uttara Kannada. This would provide an excellent opportunity for students and teachers taking science to the villages of Western Ghats villages.

The Organising Committee, **Conference – Lake 2016**  
**Energy & Wetlands Research Group**  
**Centre for Ecological Sciences, Indian Institute of Science**  
**Bangalore 560 012, India**  
**Tel: 91-080-22933099/23600985**  
**Fax: 91-080-23601428**

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**Address at Kumta, Uttara Kannada District**

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The Organising Secretary, **Conference Lake 2016**

Centre for Ecological Sciences,  
Indian Institute of Science Field Station,  
Siddanabavi Road, Gandhinagar  
Kumta 581343 (Phone 08386-223426)

**Mobile: 9342470560 (Dr. Prakash Mesta)**

**e-mail: prakashhonavar@gmail.com, prakash\_honavar@ces.iisc.ernet.in**



**CENTRE FOR ECOLOGICAL SCIENCES  
INDIAN INSTITUTE OF SCIENCE  
BANGALORE 560 012, INDIA**

Telephone: 91-080-23600985 / 2293 3099/ 2293 2506  
Telefax: 91-080-23601428 / 23600085 / 23601683 (attn: CES/TVR)  
E Mail: [cestvr@ces.iisc.ernet.in](mailto:cestvr@ces.iisc.ernet.in)  
Web URL <http://ces.iisc.ernet.in/energy>

Dr. T.V. Ramachandra

Energy & Wetlands Research Group

CES /TVR/UK-YSE2016/10505/2016

24 July 2016

Dear Sir/Madam,

**Subject: Young Sahyadri Ecologist-2016 (for high school/college students)**

We have the pleasure to inform you that considering the urgent need for quality environmental education for students and teachers, and for documentation of biodiversity and conservation of rare natural resources we are planning to conduct **Young Ecologist -2016** competition for high school, junior college and degree college students of Uttara Kannada. Uttara Kannada has been selected for this programme because our institution, the Indian Institute of Science, has been actively engaged in ecological studies in this biodiversity rich region for the past 25 years. The fruits of this long period of concentrated ecological work have been passed on to the society and the governments of state and centre. To fulfill the expectations of Biodiversity Act-2002, we have decided to introduce ecological research and awareness programmes to the grassroots level. For the success of this programme and for creating the much needed knowledge on declining biodiversity and to solve environmental problems facing the society, we believe that the student community has a lead role to play.

The results of this study would be helpful in identifying ecologically sensitive regions and helps to prepare ecologically sound developmental plans for the region. The best performing students in this competition, open to all levels of high school, pre-university and degree colleges, will be presented with Young Sahyadri Ecologist-2016 award. The details of the programme accompany this letter. I hope your reputed institution will co-operate in conducting "**My Village Biodiversity**" studies and prepare your students for the **Young Sahyadri Ecologist -2016** award. Please fill up the entry form and send it back to the address given on the form by 15 August 2016.

With regards,

yours sincerely

Dr T V Ramachandra

Convener

**Conference on Lake 2016**

PS: This competition is for all students in Western Ghats region. Each student (or group of two) can take up the assignment of documenting their village biodiversity.

**ENTRY FORMAT**

1. Name and address of the Institution
2. Name of the Head of Institution
3. Phone nos & email
4. Details of villages proposed for the study

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Taluk	-	Panchayat	-	Village
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**Note: An institution can select any number of villages for study depending on the number of students who show interest**

**Please send the entry forms to the following address on or before 5 September 2016**

**Dr. Prakash Mesta,**  
Centre for Ecological Sciences,  
Indian Institute of Science  
Field Station, Siddana bavi road, Gandhi Nagar  
Kumta 581343 (Phone 08386-223426)