

## Follow up of the *Sahyadri* Freshwater Biodiversity Assessment Project: Conservation through education and training

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Critical Ecosystem Partnership Fund (CEPF) sponsored a project entitled "Involving community, stakeholders and journalists for the conservation of Freshwater Biodiversity in Western Ghats through education, training and follow up of the assessment project". As part of this, a trainers training programme on the Western Ghats Freshwater Biodiversity conservation was organized at Coimbatore from 25-27 February 2013 for a group of selected educators from five Western Ghats states. Zoo Outreach Organization (ZOO) and Wildlife Information Liaison Development (WILD), Coimbatore organized the workshop in collaboration with Conservation Breeding Specialist Group, IUCN SSC South Asian Invertebrate Specialist Group, Freshwater Fish Specialist Group – South Asia, and Conservation Research Group, Kerala.

The Western Ghats assessment includes 1146 species of fish, molluscs, odonates and aquatic plants. The final report included the conservation status of species; data on the distribution, abundance, ecology, and utilization by humans; the risk of extinction of the species according to the IUCN Red List Criteria and geographic patterns of species richness, endemism and existing or pending threats to the species. As per the assessment report close to 16% of the assessed freshwater taxa are threatened, with more than a third (37%) of fish and one-fifth (20%) of aquatic plants facing the risk of global extinction. Approximately 10.5% of species were assessed as Data Deficient with an average of 26% data deficiency in the two invertebrate groups. More than half (56%) of all fish and 18% of all mollusc species in the region are used for food, and 28% of aquatic plants species provide valuable medicinal resources. Full report of this project is available at: <http://data.iucn.org/dbtw-wpd/edocs/RL-540-001.pdf>

This CEPF project on conservation education and training is the follow up of the above assessment report. WILD and ZOO were the in-country coordinators of the freshwater biodiversity assessment for the IUCN Freshwater Biodiversity Unit. The



**Understanding Western Ghats and freshwater systems through map reading**



**How to classify animals? classroom exercise**

assessments having indicated some interesting facts and threats faced by the freshwater ecosystem communities (fish, odonates, molluscs and aquatic plants), the information gleaned from the assessment project have to be communicated to various stakeholders to make the project useful and ensure the survival of the threatened species. Through this follow up project, CEPF is assisting to help continue the assessment efforts in disseminating the findings, follow up action and working

with the stakeholders on a long-term sustained basis.

The objective of the project is to disseminate the results of the CEPF project on freshwater species of Western Ghats and to create awareness among local communities involving a range of stakeholders. This project covers all the five states of the

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**Drama on deforestation**

As a follow up of the Freshwater Biodiversity Assessment, a three day interactive educators' workshop on The Sahyadri Freshwater Biodiversity Conservation was conducted from February 25-27, 2013 at Karl Kubel Institute for Development, Anaikatti, Coimbatore. The 3-day programme was an interesting mix of activities, discussions and games that went hand-in-hand with learning about fun-filled education techniques, all directed at spreading the message on conservation of Freshwater Biodiversity. Educators from 5 Western Ghats states viz., Maharashtra, Goa, Karnataka, Kerala and Tamil Nadu attended this trainer's training programme representing schools, colleges, the forest department and non-profit organizations. They brought with them a blend of teaching

Western Ghats (Kerala, Tamil Nadu, Karnataka, Maharashtra and Goa) targeting local communities and community heads, school children, educators at schools, NGOs, and community level, forest personnel, stakeholders and policy makers.

WILD and ZOO have been involved in conservation awareness programmes in India for many years on various topics and now we have an educator network called ZOO's Educator Network (ZEN). Language being a major barrier in India, conservation education and dissemination of information to local communities is a big challenge. At the same time conservation efforts will be fruitful only with effective involvement of the local communities, governing bodies and all stakeholders.



**Learning through games**



**A drama scene on sustainable utilization**

experience and knowledge of working with communities. There was a healthy exchange of ideas and experiences between the assemblage of 18 (16 participants and 2 workshop organizers) regarding conservation education to various stakeholders in the Western Ghats region.

One of the outputs of this project is a teaching guide. 'The Sahyādrī Freshwater Biodiversity Teaching Guide' consists of four units featuring freshwater animals and plants, which can be used as a medium for conveying a wide range of active learning techniques for both experienced and casual educators. The Sahyādrī Freshwater Biodiversity Teaching Guide also provides education



**My poster on westerghats history**

about freshwater animals and plants in general and creates interest among students and other target groups to contribute at the individual level to help protect them and their habitats. Included in the materials are basic facts about the four freshwater groups viz., fishes, dragonflies, molluscs and water plants. It also includes value of FW biodiversity, basic taxonomy of select groups, Western Ghats maps, species diversity, threats, status, freshwater biodiversity uses and values, assessment methodology, conservation status and recommendations for conservation. Specifically about selected FW species we have distribution, biology, role in human culture, conservation projects in Western Ghats and people contributing to conserve FW biodiversity. The last unit exercises are provided to help participants commit themselves to contribute for the conservation of FW biodiversity.

The approach in this guide is to teach and to attract non-traditional as well as traditional educators to adopt new teaching techniques and activities, which are more effective in influencing comprehension, retention and behavioural changes. In addition to the teaching guide, educational packets featuring Freshwater Biodiversity are used during the programme. Thus the methodology involves a combination of tools, a teaching guide, educational packets with booklet, masks, stickers, placard, posters, etc., which are useful in teaching different target audiences. The activities will be indoors and

outdoors, informative, interactive and fun. The teaching guide is designed in such a way that only minimum expenditure is involved to plan an education programme.

The overall objective is to impart knowledge about the status of the Sahyādrī Freshwater Biodiversity and to bring about attitudinal change among students and other target groups towards conservation of species. To assess the attitudinal change, evaluation or assessment methods are included in the teaching guide. These evaluation techniques are suitable to use with a wide range of audience of different age groups, literate and illiterate.

During the training the participants had an opportunity to read through and offer their inputs to the manual on Freshwater Biodiversity Conservation being brought out by ZOO/WILD and CEPF. Incorporating all the inputs from the participants, a variety of education materials will be developed that will be made available for the participants to conduct awareness programmes with their audience in all five states. During the workshop a discussion was conducted to look into the opportunities of involving journalists in all five states to spread the message of freshwater biodiversity conservation. A database of journalists was created which will be compiled for future use. This workshop was a great success as it helped kindle new thoughts, friendships and collaborations among the participants, which would certainly translate into their refreshed efforts



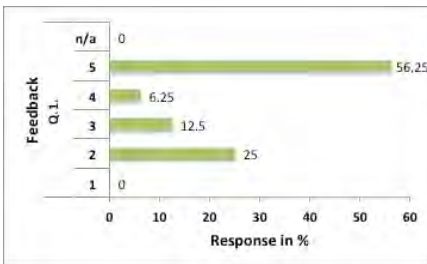
**Scene from a Role Play**

towards educating their audience about conservation, and also rope in more enthusiastic people in their respective regions to support and work for this worthy cause.

At the end of the workshop an evaluation was conducted and feedback of the participants (selected questions and n=16) about the education materials and workshop are given below:

**Q1. Application of the teaching tool**

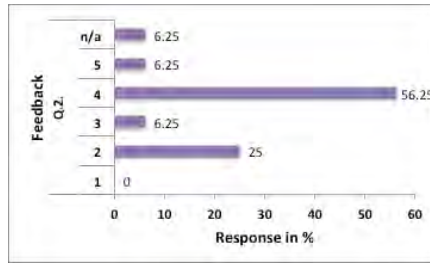
1. This teaching tool cannot be applied in my region
2. Most of the teaching tools can be applied in my region
3. Some of the teaching tools can be applied in my region
4. A few teaching tools can be applied in my region
5. This teaching tool is most useful and can be fully applied in my region



**Q2. Quality of information**

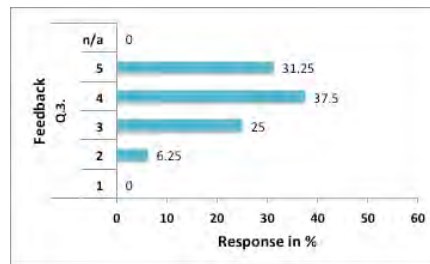
1. Information on FW biodiversity provided in the training was not adequate
2. Information on FW biodiversity provided in the training was not enough
3. Information on FW biodiversity provided in the training was to my expectation
4. Information on FW biodiversity provided in the training was enough

5. Information on FW biodiversity provided in the training was full and complete



**Q3. Solution**

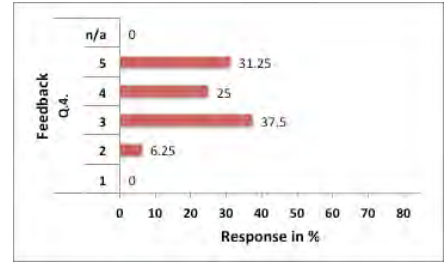
1. This training will not help to promote FW biodiversity Conservation in my State
  2. This training may help to promote FW biodiversity Conservation in my State
  3. This training will help to a certain extent promote FW biodiversity Conservation in my State
  4. This training will help to promote FW biodiversity Conservation in my State
- This training will definitely help to promote FW biodiversity Conservation in my State



**Q4. Teaching manual**

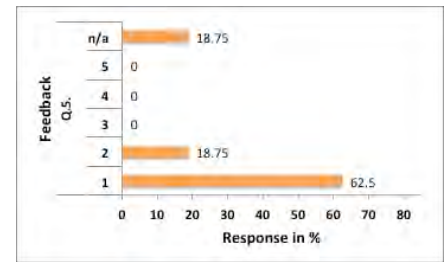
1. The FW Biodiversity teaching guide has very high technical information
2. The FW Biodiversity teaching guide is difficult to understand and practice
3. The FW Biodiversity teaching guide has many useful information and nicely presented
4. The FW Biodiversity teaching guide is good

5. The FW Biodiversity teaching guide was user friendly and very useful



**Q5. Teaching manual layout**

1. The illustrations given in the manual are appropriate and adequate
2. More illustration are needed
3. There are too many illustrations



**Q6. Application**

1. I have no chance to use the content of the training
2. I can not use the content of the training fully but to a certain extent
3. I can use the content of the training where ever possible
4. I can use the content of the training to the maximum possible
5. I can utilize the content of the training full

