



Exploring Nature Through Birds (ENTB)



Interim Report

April 2013 - August 2014



**Sálim Ali Centre for
Ornithology & Natural History
(SACON), Coimbatore.**

**National Council for
Science & Technology
Communication (NCSTC)**



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Interim Report April 2013 - August 2014

Submitted to

National Council for Science & Technology Communication

Department of Science and Technology,

Government of India

SACON Library



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Acknowledgements

Exploring Nature through Birds is a innovative science communication programme envisaged collectively by SACON and NCSTC/DST. It is the vision of Dr. D.K.Pandey, Scientist of National Council for Science and Technology Communication with the full support of Dr.B.P.Singh the Head, NCSTC, has lead to the development of this programme in SACON. I wish to express the gratitude to these two visionaries along with all the Project Advisory Committee members of DST for appreciating the plan of the project and giving full support for this endeavour.

Many participants of first brainstorming session of this programme such as K.S.Krishnan, Suhel Qader, Sultan Ismail, Prabhakar, E. Kunhikrishnan, Arpit Deomurari, UN Ravikumar, Jaganathan, Harish Bhat, TN Vijayakumar, Sathian Meppayur, Thomas Vazhakkadan, and R. Eswaran have contributed well to the growth of the idea. Director and all scientific staff of SACON have contributed in many ways for the improvement of the ENTB programme. I received full hearted support of my assistants and research scholars, Divyapriya, Rajan Pilakkandy, Suhirtha Muhil and Chaitra sree for the development of ENTB module. Software developers M/s ShriyaSys of Coimbatore helped us in developing the interactive web interphase of the ENTB programme and integrated to the Nature Education Web site of SACON. Purpose of this programme is nurturing scientific temperament and love towards birds and nature in the young minds. We have received lot of encouragement from various circles to take this into a national movement of science communication linked with nature conservation. We hope the wishes of all these well wishers will take this programme forward.

P. Pramod

Introduction and Background

Exploring Nature through Birds (ENTB) is visualized as a science communication programme as well as a citizen science education programme. organised by Sálím Ali Centre for Ornithology & Natural History (SACON), Coimbatore, catalysed and supported by the National Council for Science and Technology and Communication (NCSTC) of Department of Science and Technology (DST), Government of India.

Initially known as **‘Monitoring Nature through birds’** has rechristened as **‘Exploring Nature through Birds (ENTB)’** after the suggestion and consensus of all experts including observers form DST in the brainstorming workshop conducted to launch the project activities.

ENTB is aimed to develop a module for science communication which includes a web portal to collate and present the data, connect and coordinate the teams working in various parts of the country and an activity-based-learning kit that could be used in class rooms as well as in field by students.

ENTB nurtures careful observation and systematic documentation which in turn is creating participatory data generation on the status of biodiversity, with the participation of students and teachers. This will also motivate children to understand and appreciate well of our environment and the role of birds in it.

Exploring Nature Through Birds (ENTB) project aims in the biomonitoring of ecosystems through selected set of birds by means of a participatory science education

programme. This program intends to communicate the scientific temperament, habit of careful observation, recording, analyzing the data in the real time situation among children.

This citizen science project aims to develop the efficient communication tools to evaluate and convey the importance of birds in ecosystems. Through the planned participation of children and teachers, this project also expects an outcome of developing a simple systematic protocol for bird community biomonitoring system.

The module includes simple field guides, posters, for effective use for students and local people. Plan of the module was developed through a brainstorming workshop involving the ideas of experts in the field. Contents are developed in SACON. A booklet to introduce the programme and target birds, a simple methodology manual for monitoring birds by the teachers and students, a book to introduce the world of birds through fun games to children and a CD with all these materials and supportive materials were developed. A national workshop of master resource persons and regional coordinators had conducted in which the details of modules were explained in detail. An interactive website on this programme was also launched for the dissemination of all the materials and information.

2. Brainstorming Workshop on ENTB

After the initial preparation and staff selection, an brainstorming workshop was conducted in the Salim Ali Centre for Ornithology and Natural History, Anaikatti, Coimbatore on 18th & 19th June 2013. The many experts in avian biology across the country, experts on database management and scientists and naturalists were invited and participated in the programme. Dr. D.K Pandey from NCSTC/DST and Prof. K.S.Krishnan

from NCBS, Bangalore guided the overall deliberations in these two days. Scientists from SACONs also contributed in many ways. Suggestions and inputs were given for the science communication module preparation and further plan for design and scaling-up of the project.

Agenda of the brain storming session:

The main agenda of the brain storming session is;

- to select a set of common bird found across India for bird monitoring studies.

selected regions,

- road map for the project,
- suggestions and inputs from experts for developing module, and webportal development.

A. Presentations organized

- Dr. Pramod has presented the overall plan of the ENTB programme in detail as the points to initiate discussion. Then topic wise discussions were conducted on the agenda of the programme.
- Dr. Prabakar, Strand Life Sciences, explained the features, license of IBP. IBP contains species page, map interface to explore demographic and abiotic layers, transact details, checklists of spp., attribution for the credits, observation interface facilitating the crowd input, document holders (Document Manager^{beta}) for uploading data. The portal contains hyperlinks to connect with external source to pull data. Dr. Prabakar answered for the question rose on creating such portal for MNTB and said that it would need IT expertise.

Brain-storming Workshop held on 18th & 19th June 2013.



Dr. P. Pramod, the convener addressing the participants during the first day of the workshop



Mr. Prabakar during his presentation on Indian Biodiversity portal

- Arpith Deomurari, Deputy Manager - Bioinformatics and GIS & Principal Architect – IBIS, Foundation for Ecological Security (FES) gave presentation on AVIS IBIS portal. This portal on birds gives details on bird's general information, taxonomy, bibliography, free literature resource and facility to curate the data, and IUCN expert range map.
- Harish Bhat, Centre for Ecological Sciences, IISc, presented the bird monitoring Android application-Pakshi, a user-friendly model with documented data on 196 birds, and call recognition facility for the participants.

B. View points from the participants – Interactive session:

- In the “Monitoring Nature through Birds (MNTB)” title, the term “Monitoring” is heavy which can be replaced and reframed as “Exploring Nature through Birds” or “Learn Nature through Birds”, etc.
- The ENTB central team's role is to create module, motivate students and integrate the data.
- A forum is needed to include sections for open discussions among students and teachers as in “Project Noah” website.
- The module to be prepared from children's perspective.
- MNTB is to emphasize on monitoring the health of nature through birds, and study the ecosystem.
- Training programs for teachers to be conducted to train and inspire the children for scientific temperament.

C. Discussion:

The participants were divided into 3 groups for discussion on 3 main aspects of the workshop.

- Group 1: Selection of ENTB bird taxa was discussed indepth and suggested ideas are;
 - Along with 4 habitats suggested as Human-associated, Wetland, Woodland and Grassland habitats, an additional taxa of birds- “coastal birds” was suggested for the module.
 - The module should include aspects of population, plumage difference, forage, migration, prey-predator relationships, groupings and flocking, nest, vocalization, roosting, interspecies and intraspecies relations, courtship, relation between shape of beak and diet of bird.
- Group 2: This group came with idea on webportal designing
 - The web portal should be in English and regional languages, with user friendly/child friendly interface. It should also include features like: sections for videos and animated stories, bird calls, contests and quiz, discussion forum, uploading facility, registration page, image library, static page for updating data, manual and module page, re-registration facility for more than 17yrs. age groups (as the project includes 10-17 yrs. students), credit sharing and appreciation column, data templates, e-journals, facility for uploading reports in PDF format, events/announcement section, maps and locations of project schools, licensing and ethics section, logistics, open resource section, and financial aid section.

- Group 3: The group gave the suggestions for developing the ENTB module.
 - A. Indoor kit – flash cards, puzzles, posters, hand-outs, memory games (e.g., matching the birds and its habitat)
 - B. Outdoor kit – Manual or module. The chapters in the module to include: (i) what is Bird, Introduction on bird morphology (anatomy and reproduction). (ii) The selected bird's structure on a page to be superimposed by the feather pattern on a transparent sheet. List of common birds. (iii) What to look for? (iv) Pictures of selected 30 bird spp., with common name and biological name. Local name to be left blank for student to discover. (v) Ethics of bird watching. Do's and Don'ts. Why do we do? Why conservation? The importance of birds in ecosystem. (vi) Methodology of bird watching.

D. Panel Discussion and feedback:

- Dr.Prabakar, Strand Life Sciences, emphasized that the involvement of small finance contributors can be made for advertising and promotional purpose. He suggested having a pilot project at Coimbatore and to study the result and further to scale up the project.
- D.K.Pandey, Scientist-F, DST, Ministry Of Science and Technology, suggested to make a presentation as a launch of this project at December at National Children's Science Congress which would reach mass scale.
- The discussion is concluded by K.S. Krishnan, NCBS, who apprised to start the project first with 3 or 4 places, and then to scale up further.
- Primary intent is to create interest on ecology among children and to make them ask question, and generating data could be a value-added services.

- Initiating the project in 5 places to see the result and then to increase it across nation.
- To have more outdoor field work and insisted on starting it with 2 or 3 pockets in TN.
- Module could include specific studies on bird's behavior, foraging and population number. Modules should be for children and teachers
- having orientation programs, module in regional languages, which have a chart comprising bird and its ecosystem.
- outdoor activities involve stringent school administrative approval.

E. Resolutions:

The suggestions from experts during the brain storming session gave the following resolutions for taking the project to next step.

- The project is to give awareness and inspire the students to explore the nature through birds and not to collect the data from them.
- Title of the project may be reframed as "Exploring Nature through Birds"
- A module should be prepared for teachers as well on methods of birds study.
- The selected bird taxa under different habitats was selected as, A. Human Associated Birds, B. Agriculture Birds, C. Wetland Birds and D. Woodland Birds..
- Topics on Population, plumage difference, forage, migration, prey & predator relationship, grouping & flocking, nesting, vocalisation, roosting, inter-species & intra-species relationship, courtship, shape of bill & diet of the bird-relations, ecological niche, how they avoid poisonous things to be considered during module development.
- After the modules prepared it should be tested in a few places as pilot-project: may be in Coimbatore and few more places from where voluntary helps are available.

- Later initiate the program with limited workable number of districts with limited manpower, money and time.
- Offline and online module and training is needed to reach all parts of the nation.
- Primary focus on creating science communication and nature awareness among children and data collection could be an additional or secondary aspect.

Outcome of the Brain storming Workshop:

I. Selection of bird taxa.

The more frequently observed 52 birds were taken as target bird species for this ENTB project. The following 52 birds was selected and categorized under an habitat best suited making 13 bird species in 4 habitats as follows;

A. Human-associated Birds

S.No.	Common Name	Scientific Name
1	House Crow	<i>Corvus splendens</i>
2	House Sparrow	<i>Passer domesticus</i>
3	Rock Pigeon	<i>Columba livia</i>
4	Common Myna	<i>Acridotheres tristis</i>
5	Asian Koel	<i>Eudynamys scolopacea</i>
6	Purple-rumped Sunbird	<i>Nectarinia zeylonica</i>
7	Red-vented Bulbul	<i>Pycnonotus cafer</i>
8	Indian Robin	<i>Saxicoloides fulicata</i>
9	White-browed Wagtail	<i>Motacilla maderaspatensis</i>
10	Greater Coucal	<i>Centropus sinensis</i>
11	Common Tailorbird	<i>Orthotomus sutorius</i>
12	Spotted Owlet	<i>Athene brama</i>
13	Black kite	<i>Milvus migrans</i>

B. Wetland Birds

S.No.	Common Name	Scientific Name
1	Little Grebe	<i>Tachybaptus ruficollis</i>
2	Indian Pond Heron	<i>Ardeola grayii</i>
3	Little Cormorant	<i>Phalacrocorax niger</i>
4	White-breasted Kingfisher	<i>Halcyon smyrnensis</i>
5	White-breasted Waterhen	<i>Amaurornis phoenicurus</i>
6	Black-winged Stilt	<i>Himantopus himantopus</i>
7	Darter	<i>Anhinga melanogaster</i>
8	Lesser Whistling-duck	<i>Dendrocygna javanica</i>
9	Asian Openbill	<i>Anastomus oscitans</i>
10	Spot-billed Pelican	<i>Pelecanus philippensis</i>
11	Black-headed Ibis	<i>Threskiornis melanocephalus</i>
12	Common Moorhen	<i>Gallinula chloropus</i>
13	Brahminy Kite	<i>Haliastur indus</i>

C. Agriculture /Grassland Birds

S.No.	Common Name	Scientific Name
1	Rose-ringed Parakeet	<i>Psittacula krameri</i>
2	Spotted Dove	<i>Streptopelia chinensis</i>
3	Indian Peafowl	<i>Pavo cristatus</i>
4	Black Drongo	<i>Dicrurus macrocercus</i>
5	Cattle Egret	<i>Bubulcus ibis</i>
6	Green Bee-eater	<i>Merops orientalis</i>
7	Red-wattled Lapwing	<i>Vanellus indicus</i>
8	Baya Weaver	<i>Ploceus philippinus</i>
9	Indian Roller	<i>Coracias benghalensis</i>
10	Pied Bushchat	<i>Saxicola caprata</i>
11	Indian Silverbill	<i>Lonchura malabarica</i>
12	Grey Francolin	<i>Francolinus pondicerianus</i>
13	Rosy Starling	<i>Sturnus roseus</i>

D. Woodland /Scrub Jungle Birds

S.No.	Common Name	Scientific Name
1	Yellow-billed Babbler	<i>Turdoides affinis</i>
2	Coppersmith Barbet	<i>Megalaima haemacephala</i>
3	Rufous Treepie	<i>Dendrocitta vagabunda</i>
4	Common Iora	<i>Aegithina tiphia</i>
5	Common Hawk Cuckoo	<i>Hierococcyx varius</i>
6	Eurasian Golden Oriole	<i>Oriolus oriolus</i>
7	Black-rumped Flameback	<i>Dinopium benghalense</i>
8	Small Minivet	<i>Pericrocotus cinnamomeus</i>
9	Common Hoopoe	<i>Upupa epops</i>
10	Asian Paradise-flycatcher	<i>Terpsiphone paradisi</i>
11	Common Grey Hornbill	<i>Ocyeros birostris</i>
12	Pied Cuckoo	<i>Clamator jacobinus</i>
13	Shikra	<i>Accipiter badius</i>

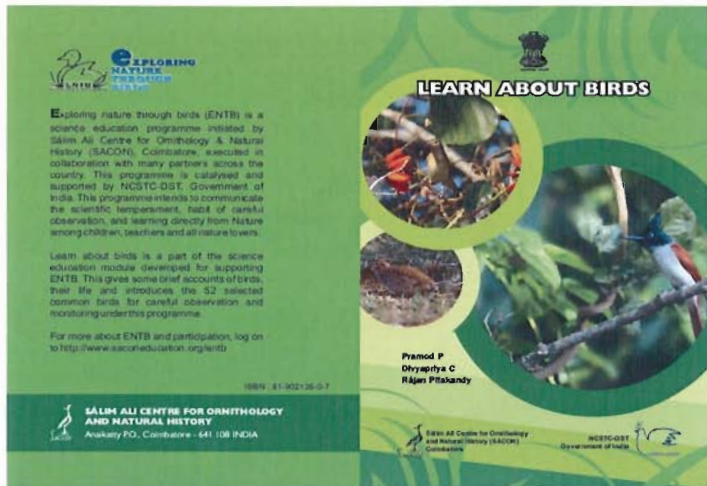
Preparation of ENTB module

One of the major and primary mandates of the project was to create a module for science communication through birds. The brainstorming session has suggested to create the module with the following items. 1. A set of books, a few postures and a web site to communicate to the larger masses. This has lead to the preparation of books in SACON. A team of researchers were engaged in the work and as a result three books, four postures and a CD with all the resource materials were created and published. A methodology guide for systematic observation and documentation of data collected during bird watching in the field and a book on the puzzle and games forms other 2 books of the module.

1. ***How to Study Birds*** by Pramod, P., Ràjan Pilakandy and Suhirtha Muhil M. 2014. Sàlim Ali Centre for Ornithology and Natural History (SACON). ISBN:81-902136-0-6. 52pp. This book introduces the world of birds and its speciality to the children and also introduces the selected 52 target bird species for the observations and study to children. This multicoiour book gives a feel about the common birds around us. And also kindle the curiosity among children to learn about their wonderful life through careful observation.
2. ***Learn About Birds*** by Pramod, P., Divyapriya, C. and Ràjan Pilakandy. 2014. Sàlim Ali Centre for Ornithology and Natural History (SACON). ISBN:81-902136-0-7. 48pp. Though children can also use this book, it is primarily aimed for teachers with more technical details about the methods of study on birds and the study of nature through birds. It introduces the simple tips to observation of birds to landscape level understanding of birds and bird habitats.

3. ***Fun with Birds*** by Pramod, P., Divyapriya, C. and Ràjan Pilakandy. 2014. Sàlim Ali Centre for Ornithology and Natural History (SACON). ISBN:81-902136-0-8. 52pp. Children always love games and fun. This is an attempt to introduce the world of birds to children through some fun games and puzzles etc. A selected set of puzzles and fun games are added here for children to try out in the indoor activities.
4. **Four posters** – A picture or a poster with carefully depicted details can communicate quickly than a well written book. Moreover visual information is stronger than the textual. We have created four posters with the back ground of four habitats to which the fifty two target species selected for observations are assigned. Four posters are titled as (1) Human-associated Birds, (2) Wetland Birds, (3) Woodland Birds, and (4) Agricultural / Grassland Birds. In each of the poster thirteen bird species are depicted in its natural positions for the children to visualize their position and role in the nature.
5. **CD ROM** : A CD rom with the soft copies of all the books, posters, photographs of all the target bird species, calls and songs of the target species, power point presentations on the programme and selected birds etc are made ready for distribution along with other materials.

ENTB Module (Books)

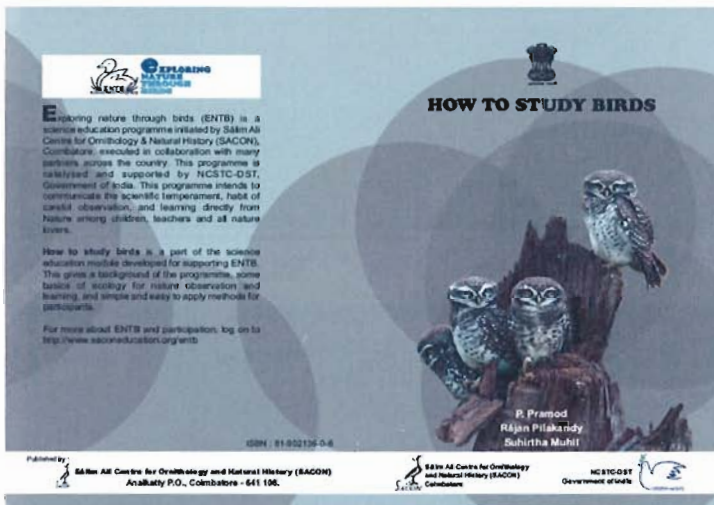


- Learn About Birds by Pramod, P., Divyapriya, C. and Ràjan Pilakandy.

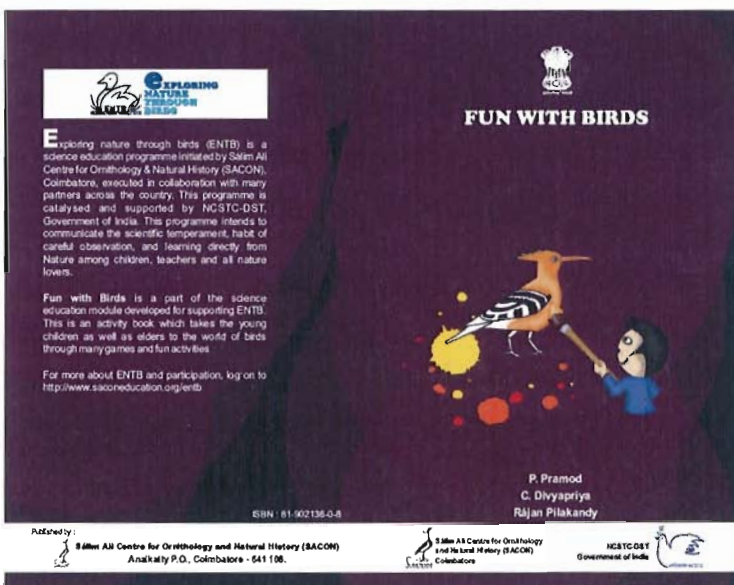
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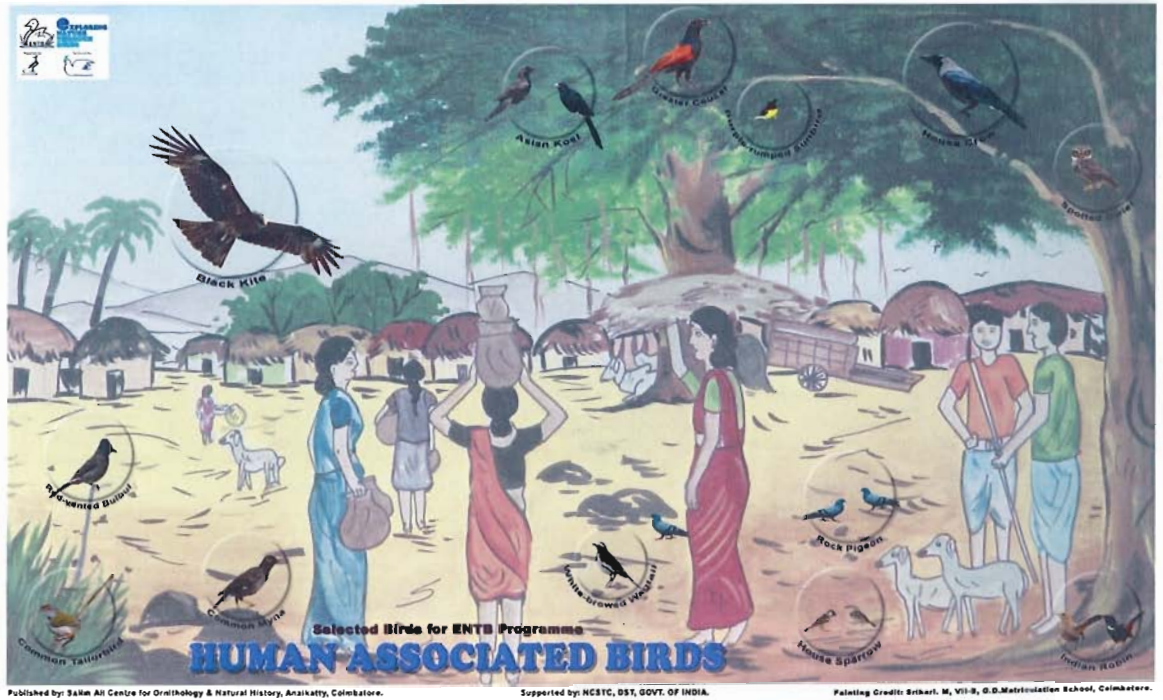
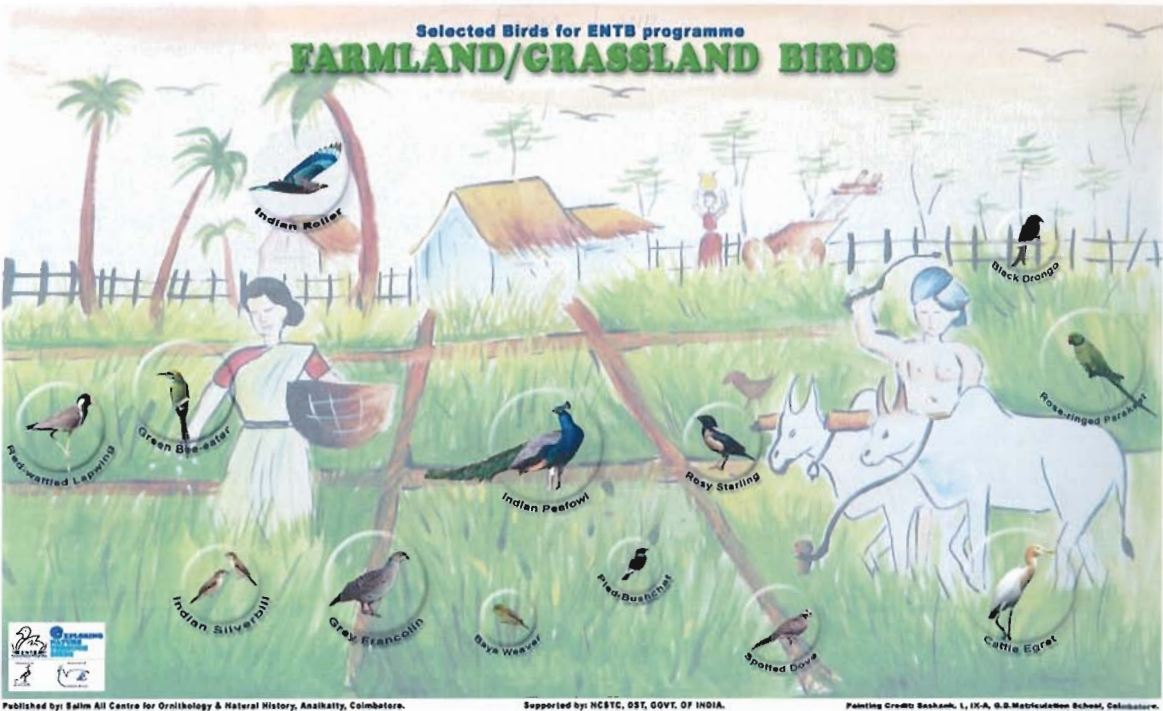
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52pp.

ENTB Module (Posters)



Development of Web inter-phase

Nature Education division of SACON has a dedicated website for science communication (<http://www.saconeducation.org>). A special section of this website is dedicated to ENTB with specially designed interactive modules. The website is planned to effectively distribute the module materials to the maximum extend electronically. All the module material prepared is uploaded for free download with instruction to use.

Another aim of the ENTB web site is directing, coordinating and integrating the field observations of the children across the country. The web portal is now providing a platform for uploading the observations collected through their observation on birds, for interacting with other members, to view and study the observations of other members.

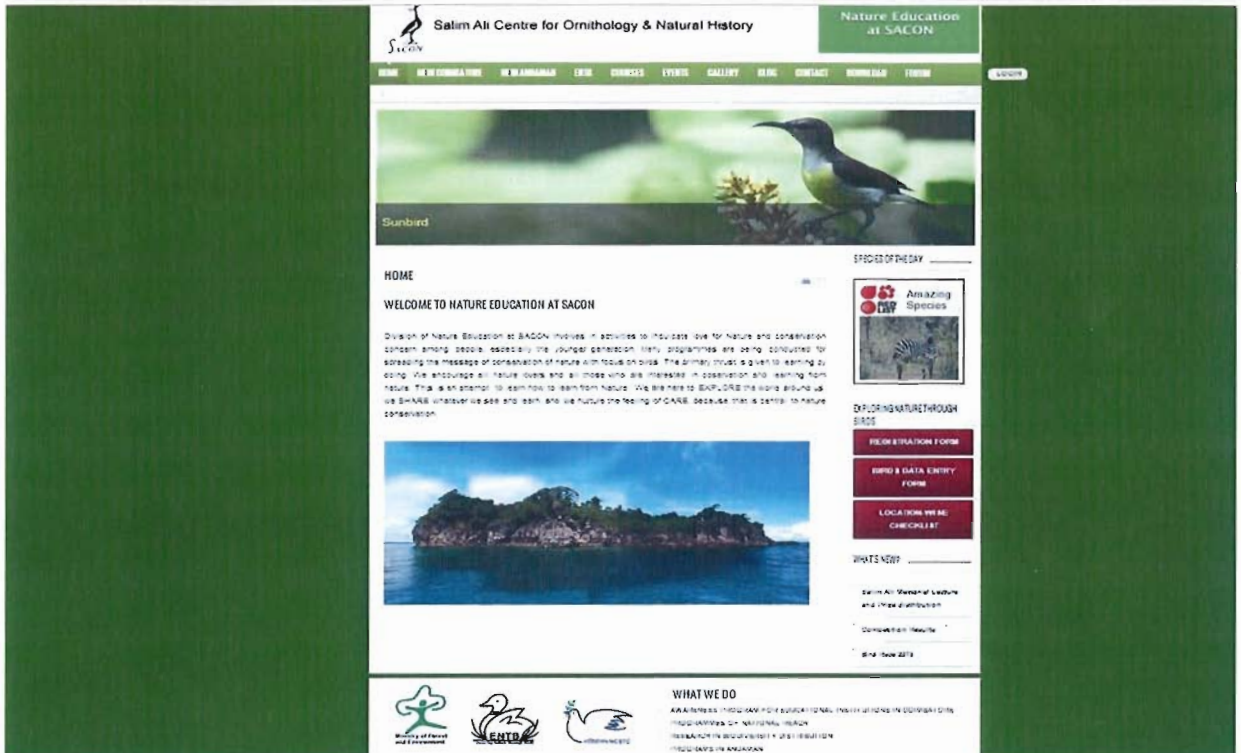
ENTB members of below 16years age forms the 'Children' category, whereas teachers and mentors will form 'Bird watcher' category. Membership can be availed by registering in <http://www.saconeducation.org/index.php/registration-form> website. Confirmation of the membership will be intimated through the provided mail id.

The registered members' observations on birds population, nesting, roosting and feeding data can be uploaded in <http://www.saconeducation.org/index.php/birds-forms> webpage. The output of the observations on the above categories will be updated in SACON nature education website fortnightly.

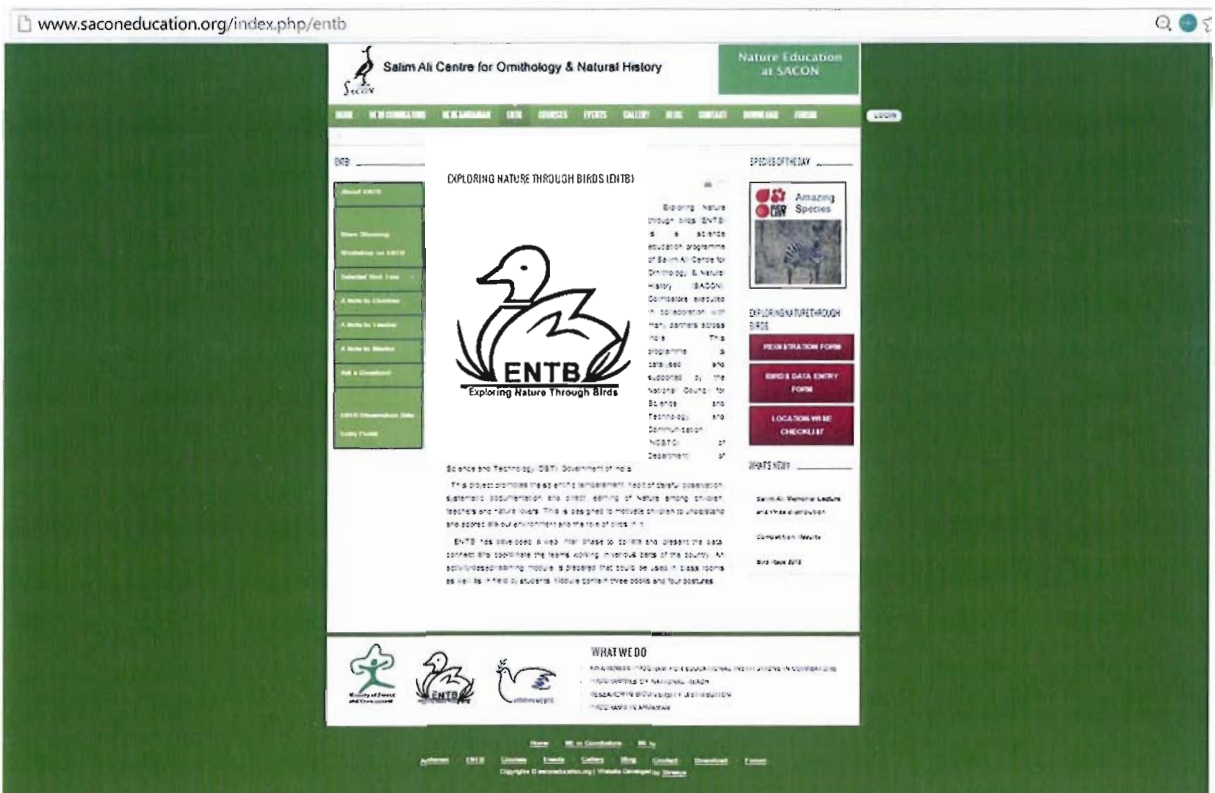
This web wite is an arena for knowledge sharing and critical discussions among ENTB members for creating a scientific atmosphere through the involvement of technology. For nurturing the debates and constructive discussions among children across India, ENTB web forum was hence created. The central ENTB team situated at SACON will answer the

ENTB Module (Web Site)

www.saconeducation.org




www.saconeducation.org – in Nature Education website, SACON



ENTB Membership Registration form

www.saconeducation.org/index.php/registration-form

 **Salim Ali Centre for Ornithology & Natural History**

Nature Education at SACON

HOME | **NEW COORDINATOR** | NEW AMBASSADOR | ENTB | COURSES | EVENTS | GALLERY | BLOG | CONTACT | BIRDS DATA | LOGIN

REGISTRATION FORMS

Expanding Nature through Birds (ENTB) is a science education programme of Salim Ali Centre for Ornithology & Natural History (SACON). Currently, it includes a population survey, nature school, etc. The programme is supported and supervised by the National Council for Science and Technology and Communication (NCSTC) of Department of Science and Technology (DST), Government of India.

The project promotes the scientific temperament, habit of careful observation, systematic documentation and their sharing of nature among children, teachers and nature lovers. This is designed to motivate children to understand and appreciate our environment and the role of birds in it.




This user interface is to collect and present the data, connect and coordinate the teams working in various parts of the country. Please click here to learn more about ENTB before register.

Please choose any of the user type registration

[Bird Watcher](#) [Children](#)

WHAT'S NEW?

- [SALIM ALI NATIONAL LECTURE AND PRESENTATION](#)
- [Competition Results](#)
- [Bird Data 2013](#)


  

WHAT WE DO

- awareness & popularisation of ornithology, systematic & comprehensive
- programmes for students, teachers
- research & monitoring & conservation
- programme & education

ENTB Birds Data Entry form

www.saconeducation.org/index.php/birds-forms

 **Salim Ali Centre for Ornithology & Natural History**

Nature Education at SACON

HOME | **NEW COORDINATOR** | NEW AMBASSADOR | ENTB | COURSES | EVENTS | GALLERY | BLOG | CONTACT | BIRDS DATA | LOGIN


BIRDS FORMS

Dear ENTB Participants, Your observations on the target bird species can be shared with the larger ENTB community of children, teachers. To register yourself as a bird coordinator/teacher Click Here. If you are a good bird watcher and want to add the programme in your locality among the teachers and students, write to us to entb@sacon.org. For uploading your observations, Click Here. For submitting the online observation click here.

Please choose any of the forms to submit your Birds data

[Population](#) [Nesting](#) [Roosting](#) [Feeding](#)

you need to register to enter the observation data. If not registered Register now.
If you are not a registered ENTB coordinator please Register Now.

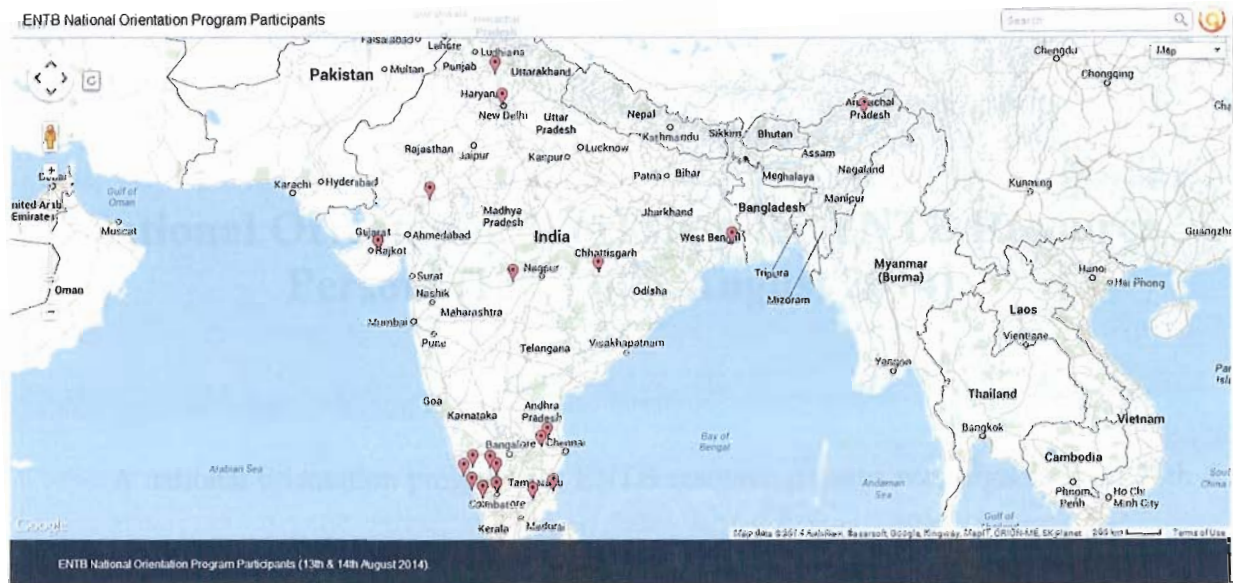
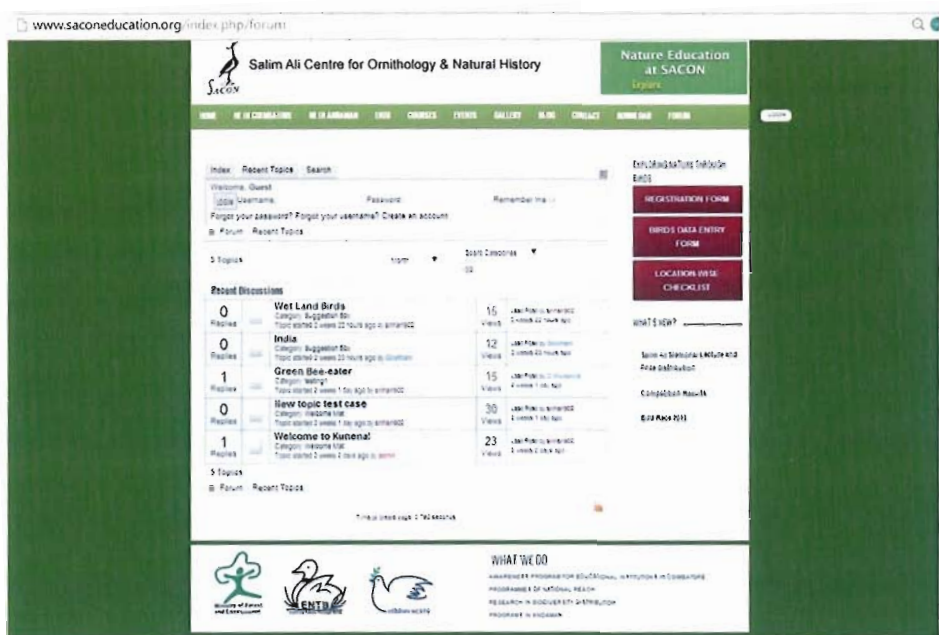
  

WHAT WE DO

- awareness & popularisation of ornithology, systematic & comprehensive
- programmes for students, teachers
- research & monitoring & conservation
- programme & education

Home | [NEW COORDINATOR](#) | [NEW](#)

ENTB Forum page



Source : <http://batchgeo.com/map/daebe70e6383d88fea8f8ed98dde1f97> : Distribution of the registered resource persons ENTB resource persons .

questions raised from members in this forum. A member can share their knowledge and start interacting at <http://www.saconeducation.org/index.php/forum>. This forum is in initial trial run form which will soon come functioning with all features.

Local Field testing of the Module

The module prepared is distributed to selected 10 schools in Coimbatore and Pollachi and motivated to start the field observations. This programme is integrated to a Rajat Jayanthi Fellowship programme of Ms. Suhirtha Muhil funded by DST in five schools in Coimbatore and Nature Education Programme of SACON in Pollachi Tamilnadu. In each of the school, four teams were planned to specifically observe the birds in specific habitats. The students and were encouraged to register in ENTB website and upload their field observations. The process is now on and progressing well.

National Orientation Workshop for ENTB Resource Persons (13th 14th August 2014)

A national orientation program for ENTB resource persons was organized on 13th & 14th August 2014 at Sálim Ali Centre for Ornithology and Natural History (SACON), Anaikatty, Coimbatore, for discussion on scaling-up the project across India along with the partnership of mentors representing all regions of India. This orientation program for mentors/resource persons was a congregation of avian biology experts, bird watchers and natural lovers for discussing the possibilities and to devise a road map for taking this project

from current regional level to national level. Total participation was over 56 including 32 participants from different parts of the country. A list of participants of the programme is placed at Appendix 'II'.

The programme was intended to intimate the participants over the progress of the Explore the nature through birds (ENTB) program since the last brainstorming session held in July and chart a road map for the future expansion of the program.

Agenda of the National orientation program:

The main aim of the program is to;

- introduce the project to the eminent guests,
- to present the ENTB module and web portal for raising suggestions for further sharpening the ENTB mission, and
- to discuss the way to expand the project to a national level.

The program began with the registration of delegates who were handed over a program kit which consisted of the entire ENTB module. Formal session began with a welcome address by Dr P Pramod. This was followed by the Inaugural address by Dr. P. Balasubramanian (Officiating Director). The address highlighted the innovative initiatives of Nature Education Division of SACON. He also urged them to enjoy different the sessions and contribute effectively for the success of the program.

Overview of the program by Dr. Pramod

Dr. Pramod narrated the genesis of the program with anecdotal experiences of exploring nature through birds in Coimbatore. And also explained in detail the journey so far in the project – the Brainstorming session of July which identified 52 birds and the process of module preparation. Explained briefly the contents of the modules and objective of the

programme. The idea behind National Orientation Programme and role of the resource persons / mentors in this project were explained.

ENTB Module and Web site

A presentation on the ENTB module and the web portal was made by Ms Divya priya. 52 birds under four categories (13 in each) were listed as common birds which need to be introduced to the children after the initial brainstorming session. These birds were listed into a book and another book on the bird study techniques was designed. Another book titled 'Fun with birds' was made to keep the subject interesting. An insight into each book was also given to facilitate fast reading of the book. (Nest observation and documentation, Roosting data and communal behavior and Data collection). Four posters made and given to participants were also discussed. The later part was a detailed presentation on ENTB membership registration process and the process of uploading different observations (including photographs). Role of each category was also discussed and explained. The plan for the next few coming years was made known to the delegates.

Discussions

During the discussions with the delegates, several suggestions were put forward by the delegates. Delegates gave many good suggestions and the session discussed all of them in detail.

eBird-A Global effort of citizen Science in Ornithology

In the post lunch session, a presentation was made by Dr Rajah Jayapal on the topic. He informed that the eBird is an e-platform which has gained momentum in last 6-7 months in India. Explained its objectives and appealing aspects which have lead to universal

acceptance. [It has the ability to integrate the data worldwide. He highlighted the fact that even some of the popular platforms have merged their data and the platform has a strong back up experts. One also gets the advantage of analyzing the 'hotspots' of bird diversity from local to global scales. He also explained the process for becoming a member and using the platform] After the presentation the session discussed about the integration of ENTB with eBird.

Exploring Contamination of Nature through Birds

A presentation was made by Dr Muralidharan- Head. Dept of Ecotoxicology of SACON. He started with the disappearance of Siberian Cranes. He dealt extensively on the vulture mortality in India. Saurus cranes mortality because of pesticide. Spot billed Pelican, Indian Peafowl, Himalayan Grey headed Fishing Eagle. He said that the decline in population of common birds such as House Sparrow, Common Bee-eater, Indian Roller, Drongo and Baya Weaver was probably due to pesticide usage. Based on this information, large scale environmental changes are being monitored by the lab in SACON. He highlighted the ill effects on humans as well as birds due to usage of pesticides and other chemicals. Requirement to introduce (IPM) Integrated Pest Management in Good Agricultural Practices (GAP) was outlined by the scientist. He firmly believed that Organic farming is a viable solution to live harmoniously for humans. All the delegates were urged to report all bird (unexplained) mortality so that the causes can be analysed and conservation programs can be planned. A well connected network of science communicators and nature observers will be of great help. He made a strong appeal to start promoting Organic farming for our own welfare.

Exploring birds of wetlands through children and Field testing of ENTB plan

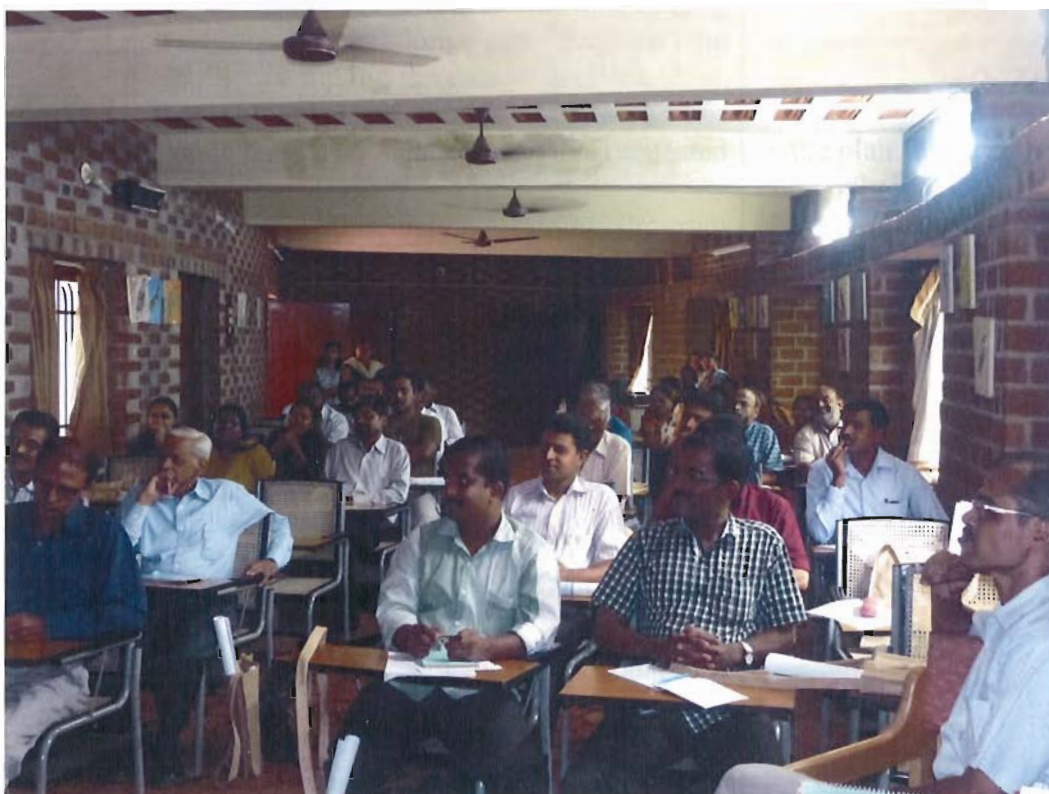
The last presentation for the day was made by Ms Suhirta Muhil on the topic- Nature education through wetlands. After an introduction for the topic by Dr Pramod on the initiation

of an idea of designating each school for one ecosystem to observe, record and analyse, Ms Muhil shared her experiences of associating herself with four schools which agreed to introduce nature education and stimulate keen nature observation. It started with a meeting with the teachers who came forward to be a part of such a program. The schools started monitoring the wetlands designated to them and the children came up with curious observations about the distribution of birds, butterflies and dragonflies over time and space. The observations were reported in the form of a scientific report. Their interest has lead to create interest in many other junior students who have come forward to join the Nature club of their respective schools. Special gratitude was expressed to all teachers who took pains to take time out and guide their children and spare them for the program.

A specific discussion was there with regard to the sparing children by the administrators and commitment by teachers. Dr Pramod explained various cases and specifically quoted the examples of the schools which have made the nature education program. He also gave an opportunity to Mrs Selvi who has pioneered the cause. She happily explained how she has been benefited by the program and informed that the students have started performing better after they started doing the nature club activities. A question was also raised about the schools who quote the paucity of time for such activities. However, the question was answered by quoting the schools which have earned laurels by getting into the nature clubs. It was also opined that it is not possible to expect all schools to respond in a similar way. But, there will be number of schools with few motivated individuals who can be capitalized upon. They have to be used as springboard to inculcate the scientific curiosity in the children.

The day's proceedings were ended by Dr Pramod requesting the participants to come out with a concrete plan by tomorrow by each delegate at his/ her personal capacity. It was

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informed that the plans of specific individuals will be discussed for carting the future plan of the project.

Proceedings on 14 August 2014

Feedback session

The proceedings for the day was initiated by the program coordinator who requested specific individual to express their views and plans. A summary of the discussion that followed is tabulated below:-

Suggested by	Suggestion / Plan	Remarks by program coordinator
Mr. Sashikumar Chennai	Birding Ethics- a Dos and Don'ts- a very important thing. Data sheet- No. of eggs is to be removed. Change of word for substratum. Nest material to be observed from far. Considerable information can be gathered from far itself. Not to remove old nests as some birds reuse it. Mentors should encourage youngsters to take field notes. All the booklets should be made available in the local vernacular. Publish the commendable work done by students probably in a quarterly newsletter. In the long run. Explore the possibility of linking the data with eBird.	-Ethics note will be made in a period of 15 days.
Dr. Ketan Tatu, Geer Foundation Gujarat	<ul style="list-style-type: none"> - Desirable to have translated version. For regional language, mentors can be requested to do the translation. - ATPBEC- Appreciation Training Program for Bird Ecology & Conservation. A list of trained personnel is available. Geer Foundation will be happy to share the list of people. - Section on the threats for birds should be included in the next publishing of birds. (may in a single liners) - Profiles of critically endangered birds - A mention on the role of birds – - A concept – Ecology- terms, threats and conservation. - Fun with birds- My birds calendar for various localities for students - Mentors should be in touch through mails, - Regional mentors to organize bird watching program 	- Vernacular translation is in the plan. But, can be done only in a later stage if DST wishes so.

	<ul style="list-style-type: none"> - ENTB for rural children.- -Peer review for identification - Comprehensive pictorial identification. - Regional mentors to develop local language names. 	
Dr Prakash Gupta Prof from Kurukshetra	<ul style="list-style-type: none"> -Children should be encouraged to carry field notes and ensured that they should carry the field notes. -No time in schools. But, there are mandatory activities. Teachers are now mandated to carry out specific activities in the field/ library/ assembly etc. This window needs to be exploited. - Nest study should not be excluded. Nest ecology gives excellent indication about the ecology. - There will be more than one reason for the disappearance of birds. We need to know all possible and identify the most important ones. Siberian Cranes- Shooting in Afghanistan and Pakistan. Then, no water in Sultanpur bird sanctuary. No proper maintenance of records for habitat. - He assured that he will do all that is possible by him in the region of Haryana and Punjab and bring in as many children as possible into the program. 	
Prof. Kunhikrishnan Thiruvananthapuram	<ul style="list-style-type: none"> -Newsletter should be there.- All information gathered should be highlighted. Look into conservation issues. Disappearance of Crows, Lapwings and Owls need to be studied. Mobile tower related issues need to be documented. Nesting habit study- Heronries can be studied in places where birds are in urbanised area. - NGC- National Green Corps. Facilities of NGC can be used and mentors can be drawn from that. This program is also sponsored by MoEF. 	<ul style="list-style-type: none"> - Newsletter is being planned for the January 2015. Generates some good news in the next two months. -In addition, a National level children's ecology conference may be held in Feb 2015. Mentors are to work in preparation for that.
Prof. Nagarajan Myladuthurai	<ul style="list-style-type: none"> - Previous suggestions are endorsed. Some of it can be taken into the final shape in two or three phases. - The lack of touch with the nature for children is a concern. It is endorsed. - Will bring in capacity building programs for my region in few schools. 	
Ms Lima Rosaline,	- Plans of delegates- Specially if someone desires to work at a higher level- may be at	

NewDelhi	<p>national level and not just regional level.</p> <ul style="list-style-type: none"> - A National Coordination Committee is to be set up. Representation needs to come from NE. , Orissa. - Nature club of WWF is a well implemented program. - Make road map before u go out of the room. <p>First selelct schools which gives u maximum success. Select a demographic schools not just one type of school such as convent and cover schools from long distances as well. Not just schools in the vicinity.</p>	
Mr. Kanoje Chattisghah	<ul style="list-style-type: none"> - School said no time. But, the news was flashed on the local news papers and local TV for open bird watching program. Interested children and parents came in big numbers. This method can be used for bringing in children 	
Dr. Jayant Wadagkar - Mahrashtra	National Children's Science Congress. The lead has to be taken by such organizations.	
Sathya Prakash mehra. - Rajasthan	<ul style="list-style-type: none"> - Integrate tradition and culture. Involved the community and school children (formally or informal). Peacock dance- - Mythological stories- give a linkage wwith birds. - Have a book on the cultural value of birds.- Aranya Samskruti - can be focused at rural and tribal belt. Green Munia- Continuous monitoring by sensitized children. They are used as Nature guides and provide economic sustainable means. - Media partner -Have a sustainable model for ENTB. Make it visible. 	
DR. Ravi Kumar Mysore	<ul style="list-style-type: none"> -Try and get a letter / Directive from the official channel – May be from DDPE. -Identify the resource person. -Orient the people with regard to their job. Teachers and mentors. -Linking local issues- -Incentives for teachers 	
Dr. P Venkat Ramani	<ul style="list-style-type: none"> -Give a project to individual students- on individual birds, insect, trees etc. - Individual effort. 	
Arpita, Kolkata	Certification is required for giving to students.	- Certification and other incentives may create a

		negative competition. It also takes the sight away from the joy what we want to give. It also makes the children leave the activity once the certificate is in hand. However, certification on completion of the course will be considered.
Jayanto, Kolkota	One should make oneself familiar in the area so that the people listen to you.	
Sajil- Calicut	A network of teachers available in Kerala state. Bird watching will be made as a subsidiary part of the Nature club in the state.	
Vishnu Das, Bangalore	A strong server is important. If system starts hanging, people will start losing interest.	The point is very valid and is in the plan. However, all that will come into effect only once we work and produce good results. That will ensure good fund flow through which these can be achieved. There is also an alternate of linking to eBird if the program takes off well. Target time to achieve this is six months.
Mrs. Selvi PSSG Singanallur, Coimbatore	<ul style="list-style-type: none"> - Teachers should create interest in the children about the nature surrounding us. - Look at the happiness of the children..... 	

The session came to an end by remarks of the Program coordinator. In addition, he

highlighted the following:-

- All mentors should have a road-plan for the program.
- All are to give a write up on their plans before leaving the program. Same will be compiled and analysed for making the final plans.
- As mentors, one need not take hundred schools at a time. Take one school and show good result. Then, more schools in the region will approach you to start such programs.

- Regional committees/ groups can be created amongst the mentors to create a network, share the knowledge and take the program forward. SACON will also work out the mandates/ task for the groups.

All the participants gave Feedback and their individual plan. A discussion based on that has listed regional coordinators and regional committees for different parts of India.

Valedictory function.

The valedictory function was chaired by Dr PA Azeez, the Director of SACON. He had also sat through the complete feed back and Plans session in the morning. He expressed his expressed happiness that all experts to came down to attend the program. He underlined that ecological data is a community domain and SACON does not hold any special authority over that. He expressed confidence that with the help of all experts present here, it will be taken to larger community. Vote of thanks was proposed by Dr P Pramod. He thanked all the delegates for taking time out and giving the priority to this informal job over all their pressing commitments. He also thanked everyone for the whole hearted participation. The program ended with a visit by the delegates to the Eco-toxicology lab of SACON and a field trip in SACON campus.

Future Plans

- Taking this project and science communication module developed to all corners of the country.
- Involving children of all classes and sections of society in nature observation and scientific documentation of their observation.
- Publishing the childrens' observations - publication of students work in quarterly newsletter. Newsletter is planned for January 2015 with constructive steps made during next 4 months.

- A national coordinating committee to monitor and mentor the teachers and children in bird watching and a road map will be developed for keeping up the momentum for reaching nationally.
- National level children's ecology conference could be planned for 2015.
- ENTB will be linked with eBird in the next level of the project.

Appendix I List of participants of Brain Storming Session 18th -19th July 2013

1. DK Pandey,	Scientist-E, Department of Science and technology,
2. KS Krishnan,	National Centre for Biological Sciences, Bangalore,
3. Sultan Ismail,	The New College, Chennai,
4. Prabakar,	Strand life sciences, Bangalore-5600024
5. Suhel Quader,	Nature Conservation Foundation, Mysore - 570 002.
6. R. Eswaran,	Department of Zoology, Madura College
7. E.Kunhikrishnan,	University College, Trivandrum, Kerala -695043
8. Harish Bhat,	CES, IISc, Bangalore.
9. Jeganathan,	Nature Conservation Foundation, Valparai
10. T. N. Vijayakumar,	Malabar Natural History Society
11. Arpith Deomurari,	Foundation for Ecological Security, Gujarat,
12. Ravkikumar U N,	Professor Retd. Mysore
13. Sathyan Meppayur	Naturalist and Teacher
14. Thomas V	Database specialist
15. P.A. Azeez,	Director, SACON,
16. P.Balasubramanian	Principal Scientist, SACON
17. S.Muralidharan	Principal Scientist, SACON

18. S.Bhupathy	Principal Scientist, SACON
19. Mathew K Sebastian ,	Extension Division, SACON.
20. Shomita Mukherjee	Principal Scientist, SACON,
21. P.R.Arun	Principal Scientist, SACON,
22. P.V.Karunakaran	Principal Scientist, SACON.
23. Rajah Jayapal	Principal Scientist, SACON.
24. P.Pramod	Senior Scientist-SACON & Convener of the workshop.
25. Goldin Quadros	Senior Scientist, SACON.
26. Manchi Shirish S	Scientist, SACON.
27. H.N.Kumara	Scientist, SACON.
28. B.Anjan Kumar Prusty	Scientist, SACON.
29. M.Mahendiran	Scientist, SACON.
30. S.Babu	Scientist, SACON.
31. Rathna Varshini C	Teacher, G.D. Matric. Hr. Sec. School.
32. Shabana M. Kumar	Teacher, G.D. Matric. Hr. Sec. School.
33. R.Selvi	Teacher, Kadri Mills Hr. Sec. School, Coimbatore.
34. C.Anitha	Teacher, Kadri Mills Hr. Sec. School, Coimbatore.
35. Joseph Reginald L	Research Scholar, SACON
36. Rajan	Research Scholar, SACON.
37. A.Julffia Begam	Research Scholar, SACON.
38. Nishadh	Research Scholar, SACON.
39. Suhirtha Muhil	Research Scholar, SACON &
40. C.Divyapriya.	Field Programme Manager, MNTB, SACON.

Appendix II- List of participants – National Orientation

Programme for Resource persons/Mentors

13-14 August 2014

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|----------------------------|--|
| 1. Ravi ShankerKanoje, | Chhattisgarh. |
| 2. B. Venkataramani, | Barn Owl Nature Club, Trichy. |
| 3. Satya Prakash Mehra, | Udaipur.Rajasthan |
| 4. KetanTatu, | Senior Scientist, GEER Foundation, Gujarat. |
| 5. CK Vishnudas, | Wayanad, Kerala. |
| 6. Jayant Wadatkar, | Wildlife & Environment Conservation Society. |
| 7. Nagarajan R, | Dept. of Zoology and Wild Life Biology, AVC College. |
| 8. Sashikumar.C, | Kannur, Kerala. |
| 9. Shabanam Saiyad, | Gujarat. |
| 10. Harsha NR, | Mysore. |
| 11. Venkatesan M T, | Vellalore, Coimbatore. |
| 12. Usha Rao, | Govt. High School, Kollegala, Karnataka. |
| 13. E. Kunhikrishnan, | Kerala. |
| 14. Hemadri R, | B.S.K. Govt. High School, Chittoor. |
| 15. Jaganmohan Rao, | Teacher, Tirupathi. |
| 16. B. Shivasankar Nayaka, | Govt. High School, Kollegala, Karnataka. |
| 17. Rosamma, | Teacher, St. Mary's Girls HS School, Coimbatore. |
| 18. Ashritha Anoop, | Bird watcher, Kodagu, Karnataka. |
| 19. Lima Rosalind, | Conservation Education Professional, Delhi. |

20. Shajil Balussery,	GGHS School, Balussery, Calicut.
21. P.T. Sirajudheen,	GHSS, Poonoor, Mangad, Kerala.
22. Manoj Balakrishnan,	Wildlife Assistant, Kerala Forest Dept.
23. Selvi,	Kadri Mills HSS, Coimbatore.
24. J. Revathi,	Yuva Bharathi Public School, Coimbatore.
25. Rohtash Chand Gupta,	Ex-Chairman & Prof., Zoology, Kurukshetra University
26. Jayanta Manna	Freelance Naturalist, Kolkata.
27. Arpita Dutta	Kolkata.
28. Abdul Jaleel P	GHS School, Poonoor, Mangad, Kozhikode.
29. Selvi,	KanyaGurukulam School, Coimbatore.
30. Lakshmi,	KanyaGurukulam School, Coimbatore.
31. Mrs. Kokila V,	Bird watcher, Trichy.
32. Ravikumar UN,	Mysore.
33. P.A. Azeez,	Director, SACON.
34. P.Balasubramanian,	Principal Scientist, SACON.
35. S.Muralidharan	Principal Scientist, SACON.
36. P.R.Arun	Principal Scientist, SACON.
37. P.V.Karunakaran	Principal Scientist, SACON.
38. Rajah Jayapal	Principal Scientist, SACON.
39. P.Pramod	Senior Scientist-SACON & Convener of the workshop.
40. Goldin Quadros	Senior Scientist, SACON.
41. Manchi Shirish S	Scientist, SACON. (A & N)
42. M.Mahendiran	Scientist, SACON.
43. S.Babu	Scientist, SACON.
44. P. Rajan	Senior Research Fellow, SACON.(A & N)



45. Aditi Mukherjee	Research Scholar, SACON. (New Delhi)
46. Nishadh	Research Scholar, SACON.
47. Aswathy	Research Scholar, SACON
48. Gopesh Sharma	Research Scholar, SACON (Rajasthan)
49. Manish Kumar	Research Scholar, SACON
50. Jins VJ	Research Scholar, SACON
51. Anoop V	Research Scholar, SACON
52. Madhumita Panigrahi	Research Scholar, SACON (Orissa)
53. Akshaya Mane	Research Scholar, SACON (Maharashtra)
54. V. Kiruba Nandhini	Research Scholar, SACON
55. Suhirtha Muhil	Research Scholar, SACON &
56. C.Divyapriya.	Field Programme Manager, ENTB, SACON.

