

# SHRI RAMDEOBABA COLLEGE ENGINEERS FOR ENVIRONMENT FORUM

*AN ENVIRONMENT CLUB OF*



**SHRI RAMDEOBABA COLLEGE OF  
ENGINEERING AND MANAGEMENT**



## **Annual Report**

**MAY 2015 to APRIL 2016**

## Prelude by the Principal



The Industrial Revolution has ushered an era of fast paced development and rampant advancement in modern technology. But with the advent of modern engineering marvels it has also ushered in challenges for the environment. On a daily basis at least, we come across various instances in television and newspapers that highlight environmental problems like pollution: air, water and soil, of waste management, resource depletion and many more whose consequences are being faced by humans and animals alike. Today, we stand at a critical point where the question to be pondered upon is-

*What is the challenge, really? Development as an Environment challenge? Or Environment as a Development challenge?*

The time has come upon for world leaders and innovators to strike a balance between development and conservation. We need awareness and actions not only from governments but also from the youth to sensitize the masses about the catastrophe our planet earth faces in modern times. And so with this idea and the motto "Engineers with a mission towards a sustainable environment", REEF was formed on 25<sup>th</sup> January, 2012. RCOEM's environment club REEF, is one of the initiatives taken up by the college to contribute towards the society with awareness activities, community service and involvement in conservation assignments. It is one of the few engineering colleges in Central India to take up such a role.

4 years since the formation of REEF, it has come a long way to increase its reach among the people, both online and offline. Regionally, REEF has risen to a commendable position in Nagpur where it is recognized by environmental groups, NGOs and experts widely for pursuing their objectives through the activities that it conducts. This annual report documents the efforts by REEFians undertaken in the past academic session.

**Dr R. S. Pande**

**Principal**

**RCOEM**

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## GREEN AMBASSADORS of REEF



### **Mentor Faculty and Founder:**

Dr. Deepshikha Mehra

(Asst. Prof., Dept of Humanities)

### **Secretaries (2015-2016):**

Vishakha Jaiswal (4<sup>th</sup> Year, EN)

Rohan Dekate (3<sup>rd</sup> Year, Mech)

### **REEF Alumni:**

Pranjal Chaturvedi (CIV, 2012)

Sarang Puri (IND, 2012)

Vinay Chawla (IT, 2012)

Apoorv Munshi (IT, 2012)

Vatsalya Mathur (EC, 2013)

Hamza Shakir (EC, 2013)

Karishma Manwani (EE, 2013)

Supriya Kawadkar (EC, 2014)

Pratik Gupta (EN, 2015)

### **Gold Core:**

Rohan Dekate (3<sup>rd</sup> Year, Mech)

Vishakha Jaiswal (4<sup>th</sup> Year, EN)

Aditya Somani (4<sup>th</sup> Year, EN)

Radhika Kale (4<sup>th</sup> Year, EN)

Apurva Bhiwapurkar (4<sup>th</sup> Year, EC)

Omkar Kekre (3<sup>rd</sup> Year, EN)

### **Silver Core:**

Harjot Singh Kahai (3<sup>rd</sup> Year, Civil)

Rohit Hazare (2<sup>nd</sup> Year, EC)  
Srushti Mehatkar (2<sup>nd</sup> Year, EC)

### REEFians

Ashish Chandan (4<sup>th</sup> Year, EE)  
Bhagyashree Girhe (3<sup>rd</sup> Year, EC)  
Madhulika Dolke (3<sup>rd</sup> Year, EC)  
Mayank Bagadia (3<sup>rd</sup> Year, Ind)  
Nilu Pandey (3<sup>rd</sup> Year, CSE)  
Raksha Mahajan (3<sup>rd</sup> Year, EN)  
Shivani Virulkar (3<sup>rd</sup> Year, EN)  
Sneha Wilson (3<sup>rd</sup> Year, EC)  
Sonal Jaiswal (3<sup>rd</sup> Year, EN)  
Sonal Pande (3<sup>rd</sup> Year, EN)  
Vaishnavi Thakare (3<sup>rd</sup> Year, EN)

Akashdeep Singh Bhatia (2<sup>nd</sup> Year, EE)  
Jayati Shukla (2<sup>nd</sup> Year, EC)  
Mayuri Kotian (2<sup>nd</sup> Year, IT)

Monali Daburkar (2<sup>nd</sup> Year, EN)  
Shubhalaxmi Joshi (2<sup>nd</sup> Year, EC)  
Utkarsh Singhai (2<sup>nd</sup> Year, Mech)

Aditya Khedkar (1<sup>st</sup> Year, EDT)  
Anshul Sanghi (1<sup>st</sup> Year, EC)  
Atharva Mangrulkar (1<sup>st</sup> Year, IT)  
Daniyah Ammarah (1<sup>st</sup> Year, CSE)  
Gauri Chandak (1<sup>st</sup> Year, CSE)  
Himanshu Gunde (1<sup>st</sup> Year, EDT)  
Nidhi Khadka (1<sup>st</sup> Year, EN)  
Nihal Reddy (1<sup>st</sup> Year, EC)  
Ojaswara Pathak (1<sup>st</sup> Year, EN)  
Pratyaksha Jha (1<sup>st</sup> Year, EC)  
Purvashree Waldey (1<sup>st</sup> Year, EDT)  
Rishika Agrawal (1<sup>st</sup> Year, EN)  
S Smita Sreeram (1<sup>st</sup> Year, EN)  
Saket Dharmik (1<sup>st</sup> Year, Mech)  
Udayann Dayaanand (1<sup>st</sup> Year, Civil)



*Green Ambassadors of REEF at REEF's fourth Installation Ceremony*

## **REEF's 4<sup>th</sup> Annual Installation Ceremony**

On 25<sup>th</sup> February 2016 REEF's 4<sup>th</sup> installation ceremony was conducted in EN auditorium. The occasion was graced by Dr. Rohan Chakravarty, an environment cartoonist by profession; Dr S.D. Mohgaonkar (Dean - Second Shift); Dr. V.H. Asudani, HOD, Humanities Dept; REEF's Mentor Faculty – Dr. Deepshikha Mehra, parents, teachers, and students.



*The traditional lamp lighting by the Chief Guest  
Dr. Rohan Chakravarty*

The ceremony began with the lighting of the traditional lamp and sapling plantation by the Chief Guest. Dr. Deepshikha Mehra then introduced the new gold core and silver core members. Certificates and

badges were presented to them. Lifetime awards to the active alumni of REEF along with long serving REEFians and special awards to the most promising REEFians were also given. A presentation on REEF's Annual Report was then given by Rohan Dekate and Nilu Pandey. It was followed by an informal presentation by Aaditya Somani and Nihal Reddy on aspects like how REEF has helped to develop the skills and personality of REEF members to become better human beings and more environmentally conscious individuals and how in small ways each one of us can create a difference. Parents also shared how REEF has brought change in their children's lives.

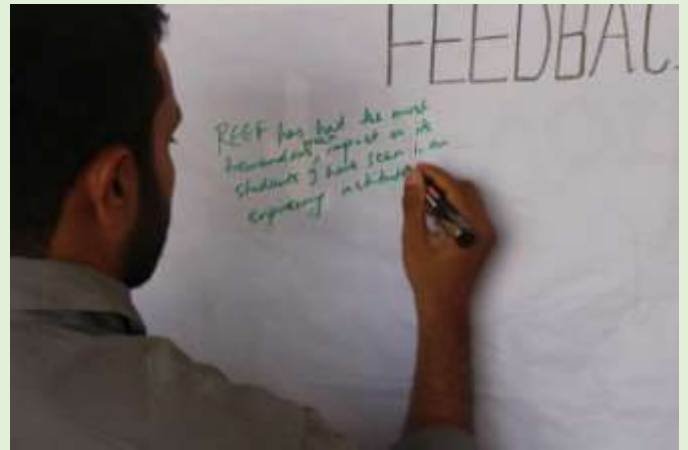


*REEFians performing Street Play "Ab toh maanja...  
Jaanlewa hai Manjha"*



The street play “Ab toh Manja, jaanlewa hai manjha” was also performed for the parents and guests. As part of the concluding session, the Chief Guest Mr. Rohan Chakravarty gave a presentation on his cartoons that are a satire on the depleting condition of the environment and failed policies. He also spoke on the need for protecting and conserving environment. Dr. Chakravarty also encouraged REEFians to keep up the work they were doing. The ceremony concluded with a vote of thanks by Vishakha Jaiswal, Coordinator of the installation. Monali Daburkar was the Co-coordinator.

Refreshments were served and feedback was taken from parents on the event.



*Chief Guest Dr. Rohan, giving his feedback of the Installation Ceremony*

## Recruitment and Orientation Session



*(From right) REEFians Radhika Kale, Aaditya Somani, Rohit Hazare and Shivam Agrawal interviewing a candidate during the Recruitment Drive*

Recruitment drive was conducted in the campus. Interviews were taken on 21<sup>st</sup>, 22<sup>nd</sup> and 28<sup>th</sup> August 2015. REEF received 239 applications out of which 51 candidates were selected. The interviews involved certain tasks and activities that the interviewees had to complete like Photoshop, literary assignments as well as knowledge of environment.

This was followed by an orientation session in Gorewada Biodiversity Park where the new members (called as

REEFlings) were introduced to REEF's objectives, achievements, and expectations from new members and as well as the functioning of the domains.



*REEF Mentor Faculty Dr. Deepshikha Mehra introducing REEF to newly recruited members after the nature trail*

## Objective #1

To create awareness and take up various activities for the conservation of various aspects of the environment

### Global Tiger's Day 2015



*(From left) Prof. V.H. Asudani, Dr. R.S. Pande, Mr. Vinit Arora and Dr. Deepshikha Mehra during the final presentation of the research competition - "How Green is Your Campus"*

Every year, REEF celebrates Global Tiger's Day (GTD) as a week-long event. This year, REEF went one step ahead and focused on awareness about tiger conservation among school kids. REEF conducted a research competition "How Green is your Campus?" in which six schools participated, namely **Bharti Krishna Vidya Vihar (B.K.V.V.)**, **Centre Point School, Dhaba (C.P.S.)**, **Mount Carmel, Bhavans (Ashti)**, **R.S. Mundle**, and **T.B.R.A.N's Mundle**. Omkar Kekre and Rohit Hazare were Co-ordinators of this activity.

From 22<sup>nd</sup> to 30<sup>th</sup> July REEF conducted various activities inside and outside the college campus. The schools were

approached in the month of June 2015 and given the rules for participating in the competition. The schools had to form an environment club and undertake tasks in three segments of the competition, namely - **"Know Your Campus"**, **"Tiger's Tale"**, and **"The Green Idea"**. They had to then present the findings of their research/task on 29<sup>th</sup> July on RCOEM campus. The final presentation was judged by Mr. Vinit Arora (a well-known wildlifer and wildlife photographer) and Dr. Deepshikha Mehra.





*School children taking pledge during the final presentation of the competition*

Mount Carmel and CPS Dhaba stood first and second respectively, though all schools participated with great interest and enthusiasm.



*Winning Team of Mount Carmel Girls' High School receiving the award at the hands of Dr. S.D. Mohgaonkar (Dean Second Shift)*

As part of the week long activities the following activities were conducted by REEF with the 6 schools to make them aware about environment:

- Nature trails on 18<sup>th</sup> and 19<sup>th</sup> July in association with BNHS (Bombay Natural History Society) at Raj Bhavan. 5 schools participated - Mt. Carmel and Bhavans Ashti on 18<sup>th</sup> July and R.S. Mundle, C.P.S (Dhaba), and BKVV on 19<sup>th</sup> July. Mr. Sanjay Karkare was the guide for both the trails. Birds, trees,

butterflies and various aspects of nature were observed and discussed.



*Mr. Sanjay Karkare guiding school children and REEFians during nature trail held at Rajbhavan*

- A radio jingle, which was composed by the music club of RCOEM, was aired on 94.3 My FM and a message regarding tiger conservation was given by REEFians.
- Newspapers like Hitavada, City Line, Lokmat, TOI etc. also publicized the event.

Basic motto of making students aware of environment and its current problems was fulfilled through this activity.



*Mr. Sanjay Karkare, Dr. Deepshikha Mehra, REEFians and school children after nature trail at Rajbhavan*

On the concluding day, 30<sup>th</sup> July a flex was put up in the college campus on which students as well as faculty members wrote messages for the conservation of tigers. All

those who penned down their thoughts were stamped on their hands by a symbol of 'tiger paw'. GTD week concluded on a high note and many people became aware of this burning issue.



*Students writing messages for tiger conservation on a flex put up in the college campus*



*Flex full of messages on tiger conservation during Global Tiger's Day week*

## Street Play

### *“Ab toh Maan ja...Jaanleva hai Manjha!”*

Even after the day of *Makar Sankrant*(14<sup>th</sup> January) the menace of manjha continues as it loosely hangs on tree branches, electric wires, poles, on the roads and in water bodies. It continues to pose a threat to humans and animals, especially to birds as it causes permanent damage to their wings, legs and other body parts. Many a times it's fatal. In order to sensitize citizens on the menace of nylon manjha, REEFians presented a street play titled 'Ab Toh Maan Ja... Jaanleva Hai Manjha'.



*REEFians performing the street play “Ab toh maanja... Jaanleva hai manjha!” in the college campus*

The play was staged in the college premises of RCOEM and Poonam Chambers on 23<sup>rd</sup> January and in Maharajhbagh Zoo on 24<sup>th</sup> January. Through the play, the students showed that nylon manjha is indestructible owing to its non-biodegradable nature and how humans and birds are affected by it.

Dean (2<sup>nd</sup> Shift) of RCOEM, Dr. S.D. Mohgaonkar, faculty members of RCOEM, students and eminent bird conservationists like Nitin Marathe, Avinash Londhe, and Ashish Tiwari were present to watch this play in RCOEM campus.

REEF also involved kids from Balgram to act in the street play: Gaurav, Sunny, Sahil and Satyam were a part of the play.

We were also guided by Mr RaveeshJaiswal, a theatre artist himself.





*REEFians performing the street play at Poonam Chambers*

Radhika Kale was the overall co-ordinator and Director of the play. Nilu Pandey, Utkarsh Singhai, Nihal Reddy, Rohit Hazare, Raksha Mahajan, Rohan Dekate,



*Dr. Deepshikha Mehra, Mr. Raveesh Jaiswal and REEFians after performance of the street play at Poonam Chambers*

Sonal Jaiswal, Omkar Kekre, Srushti Mehatkar, Radhika Kale, Aditya Khedkar, Purvashree Waldey, Smita Sreeram, Shubhalaxmi Joshi, Pratyaksha Jha, Udayann Dayanand, Daniyah Ammarah and Ojaswara Pathak contributed in the play by scripting it or acting in it.



*REEFians performing street play at Ambazari Garden*

## Street Play Competition – JAAGAR

On 27<sup>th</sup> February 2016, REEF members participated in a city level street play competition organized by Rotary Club of Nagpur North Hills in association with Art Planet. They presented the street play 'Ab toh maan ja...Jaan leva ha Manjha' and secured first prize in the second category under the theme 'Nylon Manjha'. Radhika Kale, Nilu Pandey, Nihal Reddy, Sonal Jaiswal, Rohan Dekate, Raksha Mahajan, Srushti Mehatkar, Rohit Hazare, and Omkar Kekre were part of the competition.



*REEFians performing the street play in JAAGAR*





*REEFian Radhika Kale accepting the award on behalf of the winning REEF team by the competition judges*

## Manjha Removal



*REEFians with the Manjha collected at Rajbhavan*

Every year after the festival of kites - Makar Sankranti, REEF members take the initiative of removing nylon threads used for kite flying from the trees in Raj Bhavan. The traditional cotton kite threads have been replaced with the abrasive nylon strings that get entangled into the trees and act as a deadly web for birds that fly past them without noticing it. These are non-biodegradable, thus remain on the trees for long. REEFians, concerned about

this danger, removed the manjha from the premises of Rajbhavan with the help of the authorities in order to maintain the green paradise for birds. This activity was conducted on 31<sup>st</sup> January and 2<sup>nd</sup> February 2016 where REEFians went to Rajbhavan according to their slots and removed manjha from the trees along the nature trail and in the deep woods. This was coordinated by Rohit Hazare and Ashish Chandan.



*REEFians removing entangled Manjha from the trees at Rajbhavan premises after Makar Sankranti.*

## Earth Hour Exhibition



*Dr. Deepshikha Mehra and REEFians during Earth Hour Exhibition in college campus*

Earth Hour is a worldwide grassroots movement uniting people to protect the planet. It is organized by WWF and focuses on spreading awareness and inspires people to make Earth a sustainable planet. REEFians on 19<sup>th</sup> March 2016 observed Earth Hour in the campus and conducted various activities throughout the day. It included:

1. 'Jugaad from Kabaad': They collected 'use and throw pens' from the campus and made some creative and decorative products like pen stands, lamps, etc.
2. A workshop was also conducted on "recycling of PET bottles" by REEFian Vishakha Jaiswal in which students and teachers were taught how to reuse PET bottles to make a vertical garden. These were presented to the Principal of RCOEM as well as hung in the main garden of the college.



*REEFians Shivani Virulkar, Radhika Kale and Vishakha Jaiswal explaining the concept of vertical garden from reused PET bottles*

3. A flex was put up in the college campus depicting the "red activities" which pose a threat to earth and its resource on one side and on the other side "green activities" which promote sustainable use of earth's resource. Based on these activities students and teachers were asked to judge themselves how much of their day-to-day activities are "red" or "green". Feedback from the teachers



was also taken in a recycled notebook made out of discarded blank papers.



*Dr. Deepshikha Mehra and Dr. S. Dogra discussing over the flex at Earth Hour Exhibition*

4. Along with this, REEFians also collaborated with major food joints of Nagpur like Khichdiwala, Hideout, Fuel Station, Pestro's Shack etc, and asked them to support Earth Hour, by switching off their lights from 8.30 to 9.30 PM. REEFian Nilu Pandey negotiated with the food joints for this activity. REEFians also interacted with the restaurant customers present during the hour and explained why they should observe Earth Hour.



*"Jugaad from Kabaad"- Creative items made from use and throw pens*



*REEFian Nilu Pandey at Fuel Station (Futala) explaining about Earth Hour*

## Waste Paper Management



*REEFians donating notebooks made from old assignment and journals to New Residency School, Sadar*

REEFians Saket Dharmik (coordinator), Purvashree Waldey, Aditya Khedkar, Ojaswara Pathak, Smita Sreeram, and Himanshu Gunde collected old assignment notebooks, journals, and blank papers from different faculty members made notebooks and notepads. The notepads were presented to the Principal, HODs and faculty members of RCOEM. The notebooks were donated to New Residency



School in Sadar to underprivileged students. REEFians also interacted with

Mohd. Mubin and the teachers of the school, who applauded REEF's initiative.

## Educational Trips

### **Pench Tiger Reserve, Maharashtra - Trip #1**



*REEFians (from left) Shivam Agrawal, UdayannDayanand, Harjot Singh Kahai, Dr Deepshikha Mehra and Rohan Dekate at Pench Tiger Reserve*

REEFians Rohan Dekate, Harjot Kahai, Udayann Dayanand along with Dr. Deepshikha Mehra went to an educational trip to Pench from 23<sup>rd</sup>- 25<sup>th</sup> October 2015. 91 bird species were spotted along with various mammals. White-rumped Vulture, Long-billed Vulture, Knob-billed Duck, Malabar Pied Hornbill and Blue Rock thrush were the main attractions of the trip. During the trip, discussions with the guide brought out various aspects of man-animal conflict.

### **Pench Tiger Reserve, Maharashtra - Trip #2**

REEFian Nilu Pandey along with REEF alumni Vatsalya Mathur and Supriya Kawadkar paid a visit to Pench Tiger Reserve along with Dr Deepshikha Mehra from 13<sup>th</sup> to 15<sup>th</sup> November 2015. 90 bird species were spotted among which the main attractions were White Bellied Minivet, Sirkeer Malkoha, Red Crested Pochard and Eurasian Wigeon. Mammals like barking deer, spotted deer, blue bull, Gaur etc were also seen. During this visit, REEFians took up an active role to control the menace of tourists who break rules and disturb wildlife. A group of tourists were stopped from breaking the rules within the reserve. Additionally, REEFians intervened and stopped the playing of loud music in resorts close to the core area.

### **Pench Tiger Reserve, Maharashtra - Trip #3**

REEFians Aaditya Somani, Vishakha Jaiswal, Radhika Kale and Apurva Bhiwapurkar went to Pench along with Dr Deepshikha Mehra from 19<sup>th</sup> to 20<sup>th</sup> February 2016. The highlights of the trip were the sightings of Asian Paradise Flycatcher, Malabar Pied Hornbill, Emerald Dove, Scaly Breasted Woodpecker, Streak Throated Woodpecker, Jackal and a Tiger.

## Satpuda National Park and Tiger Reserve



*REEFians at Satpuda National Park*

A group of 28 REEFians along with the mentor faculty, Dr. Deepshikha Mehra visited Satpuda National Park as a part of the annual educational trip from **23<sup>rd</sup> to 27<sup>th</sup> March 2016**. The trip included night safari of buffer zone, nature walk in the core area and boat ride to explore the flora and fauna of Satpuda National Park and Tiger Reserve. 92 bird species along with mammals were sighted. The highlights of the trip were the sighting of rare birds like Indian Skimmer, River Lapwing, Common Redshank, Peregrine Falcon, Egyptian Vulture, Eurasian Spoonbill and mammals like Leopard, Malabar Giant Squirrel, Sloth Bear, Small Indian Civet, and Crocodile. The trip turned out to be knowledgeable and informative.



The following REEFians visited Satpuda Tiger reserve- Dr Deepshikha Mehra, Vatsalya Mathur, Aaditya Somani, Vishakha Jaiswal, Radhika Kale, Ashish Chandan, Apurva Bhiwapurkar, Omkar Kekre, Srushti Mehatkar, Rohit Hazare, Bhagyashree Girhe, Rohan Dekate, Harjot Singh Kahai, Madhulika Dolke, Mayank Bagadia, Mayuri Kotian, Monali Daburkar, Akashdeep Singh, Purvashree Waldey, Udayann Dayanand, Atharva Mangrulkar, Anshul Sanghi, Ojaswara Pathak, Saket Dharmik, Gauri Chandak, Aditya Khedkar, and Himanshu Gunde.

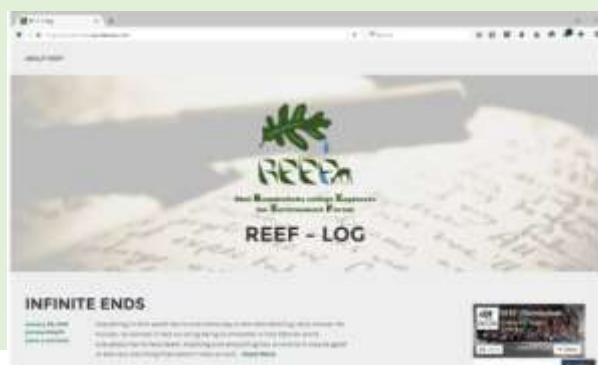


## Domain: Articles

Articles domain aims to create awareness among REEFians and others about environment. It also focuses on developing communication skills of REEFians which would be useful during and after placement. In order to achieve this, the domain conducts various activities both online and offline. Some of these are in collaboration with other domains as well.

During the session 2015-16 following activities were conducted under this domain:

- A meeting of all the members of this domain was held on 5<sup>th</sup> September 2015 which focused primarily on introduction to 'TRELLO', a website which makes working in teams an easier task and also helps in keeping a record of ideas and learnings.
- The second activity undertaken was 'Word of the day'. Each member shared a new word on the allotted day along with its meaning and usage on WhatsApp group. The words were environment related and a record of the same was maintained on Trello.
- Next activity conducted was 'Phrase of the Day' where instead of words all members had to share a phrase related to the environment and explain its meaning and usage. These phrases were also recorded on Trello.
- Various topics related to social as well as environmental issues were regularly discussed through WhatsApp group discussions: -
  - Word of the year 2015 (emoji of a face with tears of joy)
  - COP21
- The Odd- Even law brought into force by Delhi government
- Is India really an Intolerant Nation?
- Relevance of women empowerment in urban society
- Is shifting wild animals from zoo to rescue centres a good step?
- NH7 widening issue.
- In developing countries like India what should be the main agenda-development or environmental protection? How to strike a balance if at all it can be struck, given the poverty and other problems of such non annex countries?
- Relevance of electric vehicles
- Should euthanasia be legalized in India?
- A group activity was also conducted under which REEFlings were grouped in teams of two - consisting of an editor and a writer. Abstract topics were given to each team. The writers were asked to write an article on the same and the editors edited the final version. All the articles were then posted on REEF'S WordPress Blog (<https://rcoemreef.wordpress.com>) by the writers.





- A similar blogging activity was conducted in which domain members were allotted one abstract topic (like mask slips, grey blades, murky dreams, infinite ends and fragile traps). Everyone was asked to post their articles on REEF's WordPress Blog.
- News/other relevant articles related to environment were shared regularly on WhatsApp group and also on REEF's Facebook Community Page to sensitize REEFians and REEF's audience.
- Following activities were undertaken in collaboration with Social Outreach (SO) Domain:
  1. Catchy one liners on the topic 'Ill Effects on Environment of Celebrating Ganesh Chaturthi' were written and posted on Trello. These were then used on the sketches made by SO domain members on the same topic.
  2. Videos on various topics like 'Ill Effects on Environment of Celebrating Ganesh Chaturthi' and 'How Harmful Manjha is for Birds?' were searched and given to SO. These videos/links were posted on REEF's Facebook page to spread

awareness regarding the same issues.

### **REEF Idea Session**

A new activity was started to keep REEFians informed of the various developments in the field of environment as well as discussions and opinions were sought on issues and topics that were in trend. So under the guidance of Dr Deepshikha Mehra, REEFians assembled in Ma'am's cabin to discuss on topics like

- >Biomimicry
- >Syrian Crisis
- >Climate Change and COP21

### **#REEF\_StoryThon**

Another activity to instigate the imagination, creativity and writing skills of the REEFians was undertaken by the domain on Facebook. In this, a REEF member started by writing a small excerpt of his version for a story on his/her timeline and nominated another member of the domain to continue the story. Everyone had to adhere with the word limit and try to make the different portions of the story excerpts to connect together so as to form a proper story in the end.

## Domain: Birding



*(From left) Dr. Deepshikha Mehra and REEFians Srushti Mehatkar, Omkar Kekre and Rohit Hazare during a birding session at MIHAN*

Indeed, beauty of nature is seen through the mesmerizing colours of birds. To enjoy and learn from this theatre of nature, REEFians do Birding (Bird Watching) with great enthusiasm. Birding includes identification of bird species, understanding their behaviour, habitat and other related things. Birding field trips were undertaken on a regular basis to places in and around Nagpur. The hotspots included Gorewada Biodiversity Park, Ambazari Lake, Koradi, Wena Dam,

Botanical Garden, MIHAN, Raj Bhavan, Agroforestry, etc.

Birding was an important activity during the educational trips to Pench National Park and Satpuda Tiger Reserve.

In order to contribute to citizen science, the Birding checklists were uploaded on <http://ebird.org/content/india/>. It is a common platform where the data from Birders is used for the study purpose.



## Open Air Exhibition on “Avifauna of RCOEM”



*Dr. Deepshikha Mehra and REEFians during Open Air Exhibition an “Avifauna of RCOEM”*

As part of the Wildlife Week from 2<sup>nd</sup> to 7<sup>th</sup> October, REEF conducted an open air exhibition on campus. Three flexes were put up. The first listed out details like what is bird watching? Why are birds important? and why bird watching should be done?

endangered species were also mentioned. REEF has a record of spotting 82 bird species on campus. The open air exhibition proved to be extremely informative and received a good response from the students as well as the faculty members.



*Dr. R.S. Pande, Principal RCOEM, inaugurating the open air exhibition in the college premises*



*The Avifauna Open Air Exhibition flex put up in college campus*

The second flex included images of the species spotted on campus, which depicted the biodiversity of the campus. Facts about



## **Wildlife Week by Forest Department - Ambazari Bird Race**

REEFians Rohit Hazare (Team Leader), Omkar Kekre, Srushti Mehatkar and Rohan Dekate participated in a half-day Ambazari Bird Race which was organized by the Maharashtra Forest Department on account of Wildlife Week. They recorded 96 bird species and were declared as winners of the bird race.



*REEFians (from right) Omkar Kekre, Rohit Hazare, Rohan Dekate and Srushti Mehatkar participated in Ambazari bird Race by Forest Department*

They were also felicitated by eminent personalities from the field of environment, conservation and bureaucracy at Deshpande Hall, Civil Lines on 7<sup>th</sup> of October 2016.



*Winning team- Rohit Hazare (Team Leader), Omkar Kekre, Srushti Mehatkar and Rohan Dekate receiving award at Deshpande Hall, Nagpur*

## **Waterfowl Census**

To carry out a scientific study the number of winter migratory birds migrating to Vidarbha region, the Forest Department, Bombay Natural History Society (BNHS) and Birds of Vidarbha had jointly conducted the Waterfowl Census in two phases - 20<sup>th</sup> of December 2015 and 10<sup>th</sup> of January 2016. REEFians participated in both the phases. Four teams participated in the first phase and six in the second phase.



*REEFians Purvashree Waldey, Omkar Kekre and Atharva Mangrulkar spotting birds during the Waterfowl Census*

The teams in the first phase of the census were led by the REEFians Supriya Kawadkar, Rohit Hazare, Harjot Singh

Kahai and Dr. Deepshikha Mehra. In the second phase of the census, teams were led by Omkar Kekre, Rohan Dekate, Mayuri Kotian, Harjot Singh Kahai, Srushti Mehatkar and Rohit Hazare. Monali Daburkar, Purvashree Waldey, Vishakha Jaiswal, Radhika Kale, Nidhi Khadka, Apurva Bhiwapurkar, Mayuri Kotian, Atharva Mangrulkar, Ojaswara Pathak and Himanshu Gunde were present for the Waterfowl Census. A good number of waterfowl species were spotted. The locations covered during the census were Wena lake, MIHAN, Koradi, Ambazari Lake, Gorewada Lake, Police Line Takli and Agroforestry.



*(From left) REEFians Nidhi Khadka, Mayuri Kotian, Utkarsh Singhai and S Smita at Gorewada Biodiversity Park during the Waterfowl Census*

## 27<sup>th</sup> Vidarbha Pakshi Mitra Sammelan, Washim



*REEFians (in green tees, from right) Madhulika Dolke and Omkar Kekre with other participants and Dr Bahar Baviskar (center) at the Pakshi Mitra Sammelan*

REEFians Madhulika Dolke and Omkar Kekre attended the 27<sup>th</sup> Vidarbha Pakshi Mitra Sammelan organized from 20<sup>th</sup> to 21<sup>st</sup> December 2015 in Washim, Maharashtra. Apart from the general discussion on birds and their conservation, this particular symposium focused on grass land birds and the conservation efforts being employed to save birds like the

Great Indian Bustard which is already critically endangered. Eminent speakers in the field of ornithology and bird conservation graced the symposium and enlightened the audience through their learnings, findings and experiences in the field. A birding trip at Ekburji Dam was also undertaken. Madhulika Dolke was felicitated for being the Young Female Participant.



*REEFian Madhulika Dolke receiving the Young Female Participant Award*



## Seminar @ India Peace Center, Nagpur



*Mr. Bikram Grewal, Dr. Deepshikha Mehra and REEFians Supriya Kawadkar, Rohit Hazare, Nihal Reddy, Shivam Agrawal, Madhulika Dolke, Srushti Mehatkar and Omkar Kekre after the seminar*

On 30<sup>th</sup> January 2016, REEFians Srushti Mehatkar, Rohit Hazare, Madhulika Dolke, Omkar Kekre, Nihal Reddy along with Dr. Deepshikha Mehra and REEF alumnus Supriya Kawadkar attended a seminar in India Peace Center, Nagpur. The key note speakers of the seminar were Bikram Grewal and Prerna Bindra.

Mr Grewal in his seminar talked about the history of ornithology, its origins in

ancient mythology, the Vedic era, the Mughal era and its journey since time immemorial.

Ms. Bindra enlightened the audience about threats to wildlife with special reference to tiger corridors and role of development in breaking these corridors. She also shared her experience as a conservationist and encouraged others to contribute in their own capacity.



*Dr. Deepshikha Mehra with the speaker and other members who attended the seminar at India Peace Centre, Nagpur*

## 10<sup>th</sup> Annual Nagpur Bird Race, 2016



*Winning team Rohit Hazare (Team Leader), Adyant Lilhare, Utkarsh Singhai and Nihal Reddy at 10<sup>th</sup> Annual Bird Race 2016*

The Hong Kong and Shanghai Banking Corporation Limited (HSBC) and Yuhina

Eco-Media along with Wild-CER (Society for Wildlife Conservation, Education and Research) had organised Nagpur Bird Race on 7<sup>th</sup> February 2016.

The main objective of the bird race was to identify and record as many species as possible in a day and to signify the avifaunal diversity found in Nagpur region. It also called for bird conservation and stressed on their role in our ecosystem.

The REEFians participated in two teams, namely-



- Pied Falconet, led by Rohit Hazare. The members of the team included Utkarsh Singhai, Adyant Lihare and AtharvaMangrulkar.
- Collared Kingfisher, led by Supriya Kawadkar. The members of the team

included Rohan Dekate, Udayann Dayanand, and Himanshu Gunde.

- Pied Falconet won the bird race by identifying 145 species in a single day beating the team in second place by a close 3 species.

## **GBBC (Great Backyard Bird Count) 2016**

The Great Backyard Bird Count is an initiative by eBird, where bird watchers of all ages count birds to create a real time snap shot of where birds are. In 2016, the total checklists submitted to eBird were 162,052 including 5,689 species and total number of individual birds counted were 18,637,874. Dr. Deepshikha Mehra conducted the count of RCOEM on 12<sup>th</sup> and 13<sup>th</sup> February. REEFians participated in this event on the 14<sup>th</sup> and 15<sup>th</sup> of February 2016. On both days birding was done for

two hours. A good number of species were spotted in and around the RCOEM campus. Dr Deepshikha Mehra, Omkar Kekre, Srushti Mehatkar, Rohit Hazare, Madhulika Dolke, Rishika Agrawal, Harjot Singh Kahai, Nidhi Khadka, Purvashree Waldey, Udayann Dayaanand, Ojaswara Pathak, Smita Sreeram, Raksha Mahajan, Mayuri Kotian, Himanshu Gunde, Utkarsh Singhai, and Saket Dharmik participated in GBBC.

## **Bird watching and awareness session with CPS, Dhabha Students**



*School children of CPS Dhabha, their parents and teachers along with REEFians during birdwatching and awareness session at Gorewada National Park*

On 28<sup>th</sup> February and 6<sup>th</sup> March 2016 a birding trip was organized for the students of Center Point School Dhabha to Gorewada Biodiversity Park. In the introductory birding session, REEFians

taught the kids the basics of bird watching and helped them to identify common birds to make it easy for them to understand.



*REEF alumnus Supriya Kawadkar interacting with students of CPS Dhabha*

Informative and interactive games were also played with them to make them understand about bird behaviour and ecology. REEFians Omkar Kekre, Srushti Mehatkar, Rohit Hazare, Rohan Dekate, Harjot Singh Kahai, Madhulika Dolke, Raksha Mahajan, Himanshu Gunde,

Purvashree Waldey, Nihal Reddy, Udayann Dayanand, Smita Sreeram, Saket Dharmik, Nidhi Khadka, Supriya Kawadkar, Vishakha Jaiswal, Radhika Kale, Mayuri Kotian, Utkarsh Singhai and Ojaswara Pathak were accompanied by Dr Deepshikha Mehra for this birding session.

## Home Study Course in Ornithology

Rohit Hazare, Omkar Kekre, Madhulika Dolke and Rohan Dekate, enrolled for a Home Study Course in Ornithology, offered by the Institute of Bird Studies and Natural History. The institute is a part of the Krishnamurti Foundation India in Rishi Valley, Chittoor, Andhra Pradesh.

The 6-month course from July – December 2016 was about birds, their anatomy and behaviour as well as their relationship with ecology. The course not only made the REEFians aware about the biology and

technical aspects of bird studies but also enriched their knowledge as amateur birders and how they can contribute to monitor and save birds.

REEFians received study material from the institute, based on which they had to submit two test papers: mid-term and final. They also had to give these tests based on field trips that they had undertaken during the course duration. After successful completion of the course, REEFians received certificates from the institute.

## All General Meet (AGM)



*All REEFians attending Annual General Meeting at Balsadan, Nagpur*

Annual General Meet (AGM) was organised on 17th January 2016 coordinated by Vishakha Jaiswal and Rohan Dekate. All the REEF members

were guided by the mentor faculty Dr. Deepshikha Mehra about the aims and objectives of REEF. The domain heads and coordinators discussed the future course of action with other REEF members. Also the activities and initiatives that were successfully completed last year were discussed. New REEFians were rewarded with stars as a token of appreciation regarding their consistency, dedication, hard work, and good performance in various activities held in the year 2015.





*REEF members after the Annual General Meet*

## Domain: Herbarium



*REEFian Apurva Bhiwapurkar numbering a tree in RCOEM campus*

A meeting of this domain was held on 31st January 2016 and further procedure and ideas were discussed with REEFians.

The campus was divided into 6 different blocks. Each block was assigned to a group of four REEFians. These are being monitored regularly on parameters like

- Dried plants
- Lawn mowing
- Weeds
- Aesthetic sense
- Trees cut (if any)
- Name of the worker monitoring that block
- Whether the plants are properly watered

- Time and date of visit
- Availability of workers assigned to the area, etc.

Each REEFian goes once in a week for surveying his/her area and fills up the Google form as per his/her observation for that particular day. A trip under the guidance of Dr. Deepshikha Mehra will be held once in a month and the actions for required improvement will be taken thereafter.

- Mapping of trees in the college campus was done on 25<sup>th</sup> September 2015.
- Meeting with Ugemughe Sir was held on 28<sup>th</sup>September to discuss about the further activities of the domain.

On 18<sup>th</sup> October, a pilot survey of the trees in the college campus was conducted by Apurva Bhiwapurkar, Madhulika Dolke, Vishakha Jaiswal, Radhika Kale, Rohit Hazare and Monali Daburkar. Dr. Deepshikha Mehra guided the pilot survey. Scientific techniques on mapping and differentiating factors between plants and shrubs were discussed.

## Domain: Social Outreach

The aim of Social Outreach is to reach out to the masses through various mediums available like social media and spread awareness about environmental conservation.



REEF has an active Facebook community page which has more than 3000 likes. On the page, REEFians sensitize and make readers aware using various informative sketches:

- Important environment days observed
- Festivals and their environmental impacts
- Pollution in different Indian cities
- Interesting facts about wildlife and environment in general

REEFians have started with EnviroQuiz - an interactive online quiz aimed at Facebook users. A question is put up every Saturday and the users are expected to answer them by Sunday. The people answering correctly get mentioned for giving the right answer and short information regarding the answer to the question is also displayed for knowledge benefit. Social Outreach not only aims on spreading awareness about special days but it takes day to day environmental issues

into concern, chooses a topic every week and educates the citizens about these issues while also giving them solutions followed by the EnviroQuiz.

REEF has also started a Facebook group, **REEF – Beyond Boundaries**, to involve people outside REEF and discuss ideas, events and solutions to environmental problems. The group is open to any environment enthusiast with a desire to learn and do something constructive for the planet's greener future.

REEFians had made posters to mark important environmental days such as Ozone Day (16<sup>th</sup> September). These posters were put up on notice boards of all branches so as to spread awareness.



*Posters made by REEFians for awareness during various days like Ozone day and Car Free day*



*REEFians Radhika Kale and Taneesha Godre putting up a poster to create awareness*



## Car Free Day

REEFian Smita Sreeram took the initiative to persuade the faculty members of RCOEM to not use their cars for a day on

the occasion of Car Free Day observed on 22<sup>nd</sup> September. Some faculty members abided by it while some of the faculty members did carpooling.

## Objective #2

### To establish active association with various organizations working for environmental conservation

REEF collaborated with various schools, forums, organizations, and eminent people from the field of environment and conservation in various activities.

In GTD, REEF made contacts with various schools in Nagpur. REEFians not only made the students aware about environment so that the thinking process about environment and wildlife starts at a young age, but also helped them to become aware and cognizant of the various issues that are affecting the environment. REEF also organized birding trips for them through BNHS (Bombay Natural and History Society).

REEF has been actively involved in the past session with Birds of Vidarbha, a popular group of birding enthusiasts. REEF volunteered in the Waterfowl Census that they conduct under the aegis of the Forest Department. Bird conservationists and experts like Mr. Nitin

Marathe, Mr. Avinash Londhe, Mr. Sanjay Kohlia have also guided the REEFians.

REEFians performed the street play in Poonam Chambers and Maharajbagh Zoo which brought REEF in contact with the authorities there so that more awareness and sensitization activities can be carried out in the future with them on this platform.

For the Earth Hour event, REEFians approached numerous food joints and pitched the idea of Earth Hour to them and the customers thus building a foundation for future collaboration.

Bird rescue is also one of the tasks that REEF undertakes and organizations like Society for Wildlife Conservation, Education and Research (Wild-CER) and People for Animals (PFA) have been helpful and guiding REEFians to take care of injured birds and animals.



### Objective #3

To take up various activities for underprivileged children and in the process initiate and ingrain the value of environmental conservation

### Domain: Community Service

REEF members have been imparting free education to underprivileged kids at Balgram, Nagpur from April 2012. This initiative taken in 2012 is now a full functioning domain led by REEFians Vishakha Jaiswal, Sneha Wilson and Bhagyashree Girhe.

REEF members regularly visit Balgram and teach the children. They help them in preparing for their exams as well as act as friends and guides to them in addition to their own academic schedule.

The domain mainly focuses on helping out the kids at Balgram with their studies and building their overall personalities.



*REEFians with the kids at Balsadan, Sadar, Nagpur*

Some of the activities undertaken by REEFians are introduction to computers, inculcating scientific approach to life, developing eco-friendly attitude, environmental awareness and encouraging teamwork and leadership qualities.

A systematic time table has been planned out in which subjects such as Mathematics, Science, Social Science and Languages are taken up.

Apart from covering the syllabus and preparing them for their examinations REEFians take care of fundamentals too. They are taught to read, write, and understand English from scratch irrespective of which grade they belong to.



*Balgram kids and REEFians during one of the fun activities*

Belonging to poor economic background and not spending much time with their families has resulted in poor ethics and sense of life. This has resulted in hygiene problems and intolerance towards their roommates. REEFians decided to groom them. Several activities were conducted to teach them essential virtues like, teamwork, hygiene, anger management etc. so that they get to learn with fun. These activities, conducted on Saturdays,

helped them bond among themselves and with the REEFians. Activities taken on Saturdays were also sometimes focused on counselling them. Charts and Videos were prepared for them to make learning fun and to make sure that it's easy for them to grasp. REEFians Radhika Kale and Nilu Pandey co-ordinated these activities.



*REEFians Vishakha Jaiswal, Nidhi Khadka, Smita Sreeram, Puroashree Waldey, Akashdeep Singh Bhatia and Aditya Khedkar explaining personal hygiene to the kids*

Another aspect of lifelong learning taken up was teaching the students topics of their syllabus through activities. Omkar Kekre led one such interactive activity which was

meant to teach the kids about the basics of Parliamentary Affairs and how the electoral process works.



*REEFian Omkar Kekre explaining parliamentary activities to the kids through an Interactive Session*

REEF's long term objective with the Balgram students is also to sensitize them towards environment. Thus, students of Balgram were involved in REEF activities such as the Manjha Awareness Campaign where they were a part of the street play. REEF also asked them to draw what they would like to improve in their vicinity in terms of environment.

## Objective #4

To encourage the development and execution of ideas on role of technology for protection of environment

### Wireless Camera Trap



*Camera Trap Project made by REEFians- Aaditya Somani, Vishakha Jaiswal and Radhika Kale*

REEFians Aaditya Somani, Vishakha Jaiswal and Radhika Kale, Final Year students of Electronics Engineering Department under the guidance of Dr. Deepshikha Mehra collaborated and completed their Final Year project with their project guide from EN department Mr Mayank Thacker and team member Shatabdi Roy on Wireless Camera Trap. The need for environment conservation has been felt for long but the technology for its conservation has not been easily forthcoming. This project was a small step towards the larger goal of innovation for conservation. Its objective was to bring a change in wildlife monitoring in general and camera trap in particular. This has been the first time in RCOEM that a technical and a non-technical department have collaborated on a project, i.e. Dept. of Electronics and Dept. of Humanities.

Camera Trap has been the most efficient tool for wildlife census till date and certain innovations could make it more efficient. After consulting some eminent

personalities like Mr. Vinit Arora who have been working in this field for long, the project 'Wireless Camera Trap' came into picture. Wireless Camera Trap has been an interdisciplinary project where various elements of the two fields have been combined to develop a tool for more efficient conservation of environment.

Contrary to conventional camera trap, the project introduced wireless transmission of signal. As soon as an image is clicked, it transmits it to the control room. No image is stored in the device, thus eliminating the risk of tampering of data. Moreover, the data is transmitted in an encrypted form and it's impossible to decrypt it without authentication. The team has been able to reduce the size and cost of the object. Also it has added various features like adjustable image quality; various modes – live monitoring, video shooting and still image; adjustable brightness and contrast to name few. It is going to not only help in tracking animals but also to track illegal activities like poaching.

Technology has caused immense harm to the environment. Statistics show that half of the world's tropical forests have been cleared and more than a thousand species are critically endangered or have got extinct due to habitat destruction by humans. This project has given a tool to the conservationists. It can contribute immensely to conserve wildlife by tracking changes taking place in the forests.



“When the last  
tree has been cut  
down, the last  
fish caught and  
the last river  
poisoned, only  
then we will  
realize that one  
cannot eat money.”

