

REEF

RAMDEOBABA COLLEGE ENGINEERS FOR ENVIRONMENT FORUM

An Environment Club of
Shri Ramdeobaba College of Engineering and Management



ANNUAL REPORT 2014-2015

Reporting Period- May 2014 to April 2015

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REEF

GREEN AMBASSADORS



- ~ **Dr. Deepshikha Mehra,**
Mentor Faculty of REEF.

- ~ **Aaditya Somani,**
Principal Secretary (2014-15)
Electronics, 3rd Year.

GOLD CORE MEMBERS:

- **Sneha Gupta,**
Information Technology, 4th Year.
- **Pratik Gupta,**
Electronics, 4th Year.

- **Aaditya Somani,**
Electronics, 3rd Year.
- **Vishakha Jaiswal,**
Electronics, 3rd Year.
- **Radhika Kale,**
Electronics, 3rd Year.
- **Rohan Dekate,**
Mechanical, 2nd Year.
- **Manas Agrawal,**
Industrial, 2nd Year.

Silver Core Members:

- **Indrayani Thakare,**
Electronics and Communication, 3rd Year.
- **Apurva Bhiwapurkar,**
Electronics and Communication, 3rd Year.
- **Sudip Banerjee,**
Electrical, 3rd Year.
- **Harjot Singh Kahai,**
Civil, 2nd Year.

FIRST YEAR SECRETARIES:

- **Omkar Kekre,**
Electronics, 2nd Year.
- **Rohan Dekate,**
Mechanical, 2nd Year.

SECOND YEAR SECRETARY:

- **Madhulika Dolke,**
Electronics and Communication, 2nd Year.

GREEN AMBASSADORS:

- **Arpit Agrawal,**
Civil, 3rd Year.
- **Ashish Chandan,**
Electrical, 3rd Year.
- **Kritika Joshi,**
Computer Science, 3rd Year.
- **Bhagyashree Girhe,**
Electronics and Communication, 2nd year.
- **Sneha Wilson,**
Electronics and Communication, 2nd Year.
- **Srushti Mehatkar,**
1st Year.
- **Rohit Hazare,**
1st Year.
- **Shivam Agrawal,**
1st Year.
- **Taneesha Godre,**
1st Year.
- **Mayuri Kotian,**
1st Year.
- **Monali Daburkar,**
1st Year.



REEF's Recruitment Drive

REEF undertook its drive for selection of new members on **23rd August 2014**. Over **120** students from various branches had applied for the recruitment drive. Through a long process of interview by various panels of REEF members, **30** students were selected. A REEF alumnus, **Vatsalya Mathur (Tech. Mahendra)** was one of the panellists.



REEFians (from right) Kritika Joshi, Vatsalya Mathur, Vishakha Jaiswal and Sahil Dalvi interviewing a candidate during the recruitment drive

REEF's Orientation Session at Gorewada

The newly inducted REEF members were taken on a nature trail to **Gorewada** by the current members of REEF, its alumni and Mentor faculty. This was part of their orientation to environment. The trial was conducted on **24th August 2014**, where a **bird identification walk of 6 kilometres** was undertaken. After the walk a session on introduction of new and old members was conducted. REEF members who worked exceptionally well for the Global Tiger Day events were facilitated, and the new members were introduced to various domains of environment that REEF works for. The event ended with games.



Dr. Deepshikha Mehra and REEFians introducing REEF to the newly recruited 'REEFlings' after a nature trail at Gorewada Biodiversity Park

REEF's 3rd Installation Ceremony

REEF's installation ceremony was held on 10th January 2015. It was graced by the Principal of RCOEM Dr. R S Pande and Dr. V H Asudani, Head of the Department of Humanities. Teaching faculty of different departments, parents of REEFians and college students also attended the installation. The ceremony was organized in the Electronics Department Auditorium of the college.

Dr. Deepshikha Mehra, the mentor faculty of REEF initiated the program with a brief overview about REEF. After the traditional lighting of the lamp the ceremony began with the presentation of REEF's annual report and all its activities in the past academic year presented by Rohan Dekate, Indrayani Thakare and Sneha Wilson. The outstanding REEFians were rewarded for their work by the Principal, Dr. R S Pande and HOD of Humanities Dr V H Asudani.



Green Ambassadors of REEF at REEF's 3rd Installation Ceremony

The awardees included-

Radhika Kale, Vishakha Jaiswal Aaditya Somani, Sneha Gupta, Omkar Kekre, Manas Agrawal, Madhulika Dolke, Srushti Mehatkar, Rohit Hazare, Rohan Dekate, and Harjot Singh Kahai,

The new **Gold** and **Silver core members** were also inducted and the Secretaries for the 1st, 2nd, 3rd and 4th years were assigned. Radhika Kale then delivered the vote of thanks as the program coordinator. The ceremony was brought to an end by showing a short awareness video on the “**Banning of Chinese Manjha**” made by REEFians.

OBJECTIVE #1

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

DOMAIN: WILDLIFE CONSERVATION

Global Tiger's Day 2014

At a time when Nagpur has been declared as the 'Tiger capital (Waghpur)' it becomes imperative not only for Nagpurians but Indians too, to know the grave perils our national animal faces. There was a time when their population was around 40,000 during British rule, now it has slumped down to a meagre 1700 in India. Even more shocking is the tiger count around the world which is just 3000 including the aforementioned figure.

REEF members took the initiative to create awareness about tiger conservation and the urgency needed to be shown by authorities and stakeholders in India to preserve the nation's pride. In association with Sanctuary Asia, which is India's 1st and leading environment magazines, NDTV news, Aircel, Wildlife Conservation Trust and Kids for Tigers program, REEF commemorated the event into a Tiger Week which culminated into the Global Tiger's Day on 29th July.



REEFian Indrayani Thakare explaining the importance of Global Tiger's Day to children in school

During the entire week REEFians visited various schools in and around Nagpur city conducting a signature drive for the students as well as creating awareness among them about the situation of tigers in India and how they can help in saving them. This campaign took place in almost 25 schools across Nagpur like the **Bhavans** in Ashti, Civil Lines and Shri Krishna Nagar, **Centre**

Point School and Swaminarayana of Wardhaman Nagar, St Ursula's, Tip Top Convent, Bishop Cotton, St Xavier's MIDC, and various others! An online petition was also created for the same.

REEFians didn't stop just there, educating school children only. The drive was also conducted at **Empress Mall** and **Maharajbagh** where a large diversified audience was addressed on the issues to save tigers like banning poaching, man-animal conflict mitigation measures, involving local communities and strengthening the authorities to step up protection as well as make political parties accountable for the loss of biodiversity. Eventually the drive attracted close to **25000 signatures** from Nagpur.

The signatures were then sent to **NDTV** who in turn appealed to the authorities for stricter norms to save the tigers. REEF stood **5th all over India** for collecting 25000 signatures.

29th July was then marked with a **nature trail** organized at **Rajbhavan** where REEFians performed a street play titled-“**Jaanwar Kaun?**” To hallmark the entire week and Tiger's Day, REEFians along with the a few members of RCOEM's music club aired a special song on **My FM (94.3)** for Nagpurians to spread the message even further.



REEFians promoting Global Tigers Day at FM Radio Station 94.3 My FM

The week long campaign not only reached a huge mass but was successful in educating them too about tigers, which is of prime importance and focus for REEF.

DOMAIN: BIRD WATCHING AND CONSERVATION

Bird Watching

“Birding is a lifetime ticket to the Theatre of Nature!”

Indeed Beauty of Nature is seen through their mesmerizing colours of the 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 at places in and around Nagpur. The hotspots included **Gorewada Biodiversity Park, Ambazari Lake, Koradi, Wena Dam, Botanical Garden, MIHAN, Raj Bhavan.**



REEF Birders after a field trip in Mihan

Birding was an important activity during educational trips to Wildlife Parks like Pench and TATR.

Experts accompanied REEFians on some of the trips as well. Experts included **Mr. Sanjay Kohlia, Mr. Nitin Marathe, Mr. Yogendra Pathak, Mr Rohit Chakravarty, and Mr Rohan Chakravarty.** This helped REEFians to expand their knowledge about Bird Monitoring.

In order to contribute to citizen science the Birding checklists were uploaded on www.ebird.org regularly. It is a common platform where the data from Birders is used for study purpose.

REEF continues to add new species to its count.

Few notable sighting includes:

- **Chestnut Headed Bee Eater** was 1st sighted by REEF in Nagpur.
- On 16th November 2014, REEF mentor faculty Dr. Deepshikha Mehra was the 1st bird watcher in Nagpur to sight the migrant birds from **Mongolia: Bar-headed Geese** in Gorewada, which was a record sighting in Nagpur after 20 years.
- 1st photographic evidence of **Large Billed Leaf Warbler** by Dr. Deepshikha Mehra.

REEFians continue to increase their bird count with rare species like **Tickell's Leaf Warbler** and others which were sighted recently. Out of **327 Species** in Nagpur REEF has a count of **223 Species**.

Waterfowl Census

REEFians were approached by **Mr. Avinash Londhe** to conduct a **waterfowl census** which was organized by **BNHS (Bombay Natural History Society)** and the **Forest Department**. Waterfowl census implies identification and enumeration of different species spotted near water bodies.

REEF members comprising of mentor faculty Dr. Deepshikha Mehra, Sneha Gupta, Manas Agrawal, Harjot Singh Kahai, Srushti Mehatkar, Omkar Kekre and Rohit Hazare conducted the census at Wena Dam and Gorewada. A good number of waterfowl species were spotted. Notable amongst them was the spotting of approximately **5000 Red Crested Pochards** at Wena Dam.

Workshop on eBird

REEF members attended the **eBird workshop** organized by **Wild-CER** in Nagpur. **eBird** is a website (<http://ebird.org>) created by the **Cornell Lab of Ornithology** of USA and it aims to connect bird watchers across the globe to provide with important data of birds and upload it on the website in the form of checklists. The speaker of the workshop was Mr. Rohit Chakravarty who is a renowned bird watcher himself and a PG student from National Centre for Biological Sciences.

The participants included Vatsalya Mathur (REEF alumni), Sneha Gupta, Omkar Kekre, Rohit Hazare, Mayuri Kotian, Taneesha Godre, Rohan Dekate, Srushti Mehatkar, Harjot Singh Kahai, Manas Agrawal and other bird watchers from Nagpur including veterinary students. Various experts like **Dr. Tarique Sani, Dr. Anil Pimplapurkar** also attended the workshop.

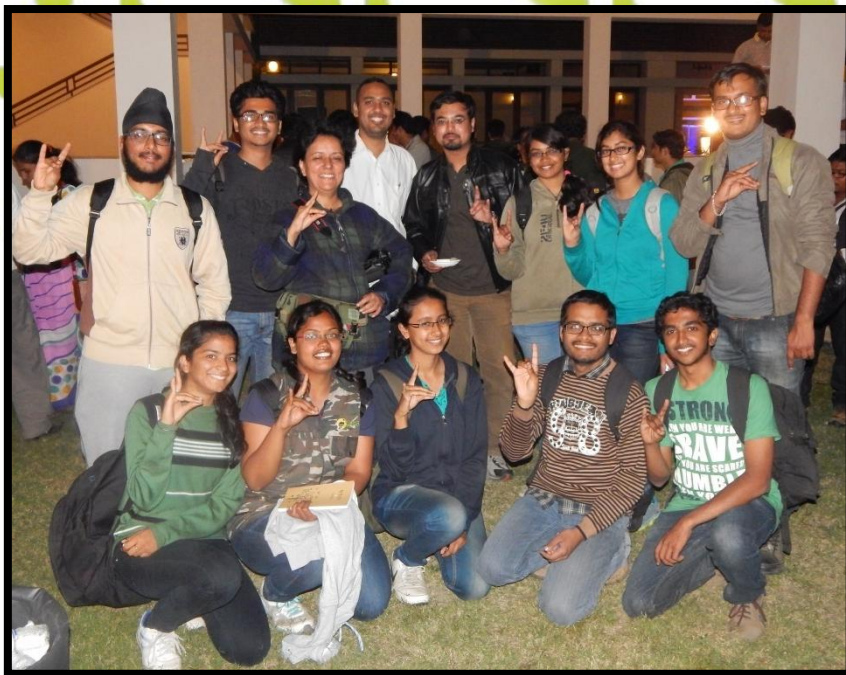
The participants were briefed about the working of eBird and how can they contribute to this website which is gaining popularity and is an important tool for monitoring birds, their migration and occurrence characteristics.

REEF members have taken up the task of uploading all their birding checklists on eBird and their rank is **1st in Maharashtra** with **211 species** and **39 checklists**. Their life list includes **257 bird species** and **85 complete checklists** uploaded on eBird standing **75th** all over India.

9th Annual Nagpur Bird Race, 2015

The Hong Kong and Shanghai Banking Corporation Limited (HSBC) and Yuhinaeco-media along with Wild-CER (Society for Wildlife Conservation, Education and Research) had organised Nagpur Bird Race on 4th January 2015.

In a marked change from previous years this year onwards the Bird Race was declared to be a non-competitive event. Yet the competitors participated in it as a race to spot the maximum number of species found in and around Nagpur.



REEF Birders after the 9th Nagpur Bird Race with Dr Bahar Baviskar

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 stressing on their role in our ecosystem.

REEFians participated in three teams and performed extremely well in the race. The teams were as follows –

➤ **Team A – Amur Falcon:**

Dr. Deepshikha Mehra, Vatsalya Mathur, Madhulika Dolke, Harjot Singh Kahai.

➤ **Team B – Eurasian Hobby:**

Sneha Gupta, Rohit Hazare, Srushti Mehatkar, Omkar Kekre.

➤ **Team C – Peregrine Falcon:**

Sahil Dalvi, Manas Agrawal, Rohan Dekate, Mayuri Kotian, Taneesha Godre

Team A and Team B covered Gorewada Biodiversity Park, Tilhara lake, Koradi Lake and Rajbhavan. Team C covered Ambazari Lake (Seed Center and Backwaters) and Rajbhavan. REEFians did birding for 12 hours from 5:45 AM to 6 PM. The species count went up to **150** which also included many rare findings.

Team B stood 2nd and Team A stood 3rd in the race. The **bird of the day - Tickell's Leaf Warbler** was also bagged by REEFians. A photograph of the rare bird was also clicked by Sneha Gupta as proof. Dr. Deepshikha Mehra, the mentor faculty of REEF, and Sahil Dalvi were in the **organizing team** of the race as well. It was an outstanding experience for everyone who participated and a great achievement for the winners.

GBBC (Great Backyard Bird Count) 2015

The **Great Back Yard 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 2015 total checklists submitted to eBird were **147,265** including **5090** species. REEFians Sneha Gupta, Harjot Singh Kahai, Omkar Kekre, Srushti

Mehatkar, Rohit Hazare, Manas Agrawal and Madhulika Dolke participated in this event on the 8th, 9th and 12th of February.

On 8th February, REEFians did observations for 3.5 hours in a patch of 0.5 km and spotted 42 species around college campus. On 9th February in 2 hours of spotting 33 species and on the 12th of February for 4 hours and spotted 45 bird species.

Manjha Removal from Rajbhavan Premises



REEFians with the collected manjha from the premises of Rajbhavan

Every year during the festival of Makar Sankranti, the most prominent of all activities that the festival symbolises, is of kite flying. But today this tradition is proving out to be deadly for humans and birds alike. The abrasive manjha gets entangled into the trees when a kite loses a flight and acts as a deadly web for birds that fly past them without noticing it. REEFians, concerned about this critical danger to birds removed the manjha from the bustling premises of **Rajbhavan** with the help of the authorities in order to maintain the green paradise for birds which is Rajbhavan. This activity took place for three days between _ to _ February. REEFians removed manjha from the trees and plants along the trail and otherwise, deep inside from the top where the manjha hung loose lying for its prey. The collected manjha would

be soon disposed away suitably after consultation for the most eco-friendly way to do so.

Awareness Video on “Say No to Chinese Manjha”

As REEFians are dedicated bird watchers they consider it a prime responsibility to create awareness about the brutal deaths of innocent birds during the festival of kite flying - Sankrant.

Awareness videos were made on this theme with a purpose of making people aware of the massacre due to Chinese Manjha just for the sake of our enjoyment. The REEFians working on this project were Omkar Kekre, Rohit Hazare, Srushti Mehatkar, Madhulika Dolke, Taneesha Godre, Mayuri Kotian.

The videos were made in three different languages English, Hindi and Marathi. REEFians also took the initiative to discourage the use of Chinese manjha by uploading these videos on YouTube and spreading it on the social networks like Facebook and WhatsApp.

Presentation on Birding at Saraswat Mandal, Nagpur



REEFians after the presentation at Saraswat Mandal Nagpur with momentos

Saraswat Mandal, Nagpur had invited REEF to deliver a seminar to the members of the mandal on Bird Watching on **22nd April 2015**. The main objective of this activity was to **create awareness amongst common citizens and increase their interest and awareness about birds** and thereby **help conservation of birds**. Dr. Deepshikha Mehra, mentor faculty introduced REEF to the audience. REEFians Sneha Gupta, Omkar Kekre, Srushti Mehatkar, Rohit Hazare gave an interactive PowerPoint presentation. Aaditya Somani helped in making the presentation and was the systems coordinator for the seminar.



REEFian Omkar Kekre presenting at Saraswat Mandal Nagpur

The Presentation covered following points-

- What is **Birding** and **How Citizens can Help in Bird Conservation**.
- **General awareness** regarding birds their habitat, behavior and interesting Facts.
- **Threats to birds** and how to tackle the problems
- How to **Start Birding**.



REEFian Rohit Hazare presenting "How to do Birding" at Saraswat Mandal Nagpur

The session concluded with a Question & Answer session where REEFians tried to answer the queries of the members.

Bird Houses

REEFians undertook another bird conservation project of providing shelter to the birds by making **bird houses** for them. The houses were made of wood named *Arjat* which prevents the house in all the seasons from deteriorating.

REEFians Arpit Agrawal with Manas Agrawal and Yash Mohbe took the initiative for this project. REEFians Aaditya Somani and Ashish Chandan actively co-operated with them in the completion of the project.



There were a total of **7 bird houses** installed in the college campus on **24th February 2015**. Of the 7 houses, 2 houses were installed near Boys Hostel mess, 2 houses were installed behind canteen area besides the library premises, 1 house each in Ramdeobaba temple's garden, Administrative block's garden and near IT complex well were installed. All the places where the houses are installed are pollution free region at higher altitude with lots of greenery around where there is no disturbance of any human activity.

Birding with kids of Centre Point School, Dhaba

REEFians organised a bird watching session for students from **1st grade to 5th grade** of Centre Point School, Dhaba, Nagpur at Gorewada Biodiversity Park on **28/03/2015**.



REEFians Rohan Dekate and Srushti Mehatkar explaining how to make a checklist to the children from Centre Point School Dhaba at Gorewada Biodiversity Park

Before beginning the trail, the kids were told about the basics and do's and don'ts of Bird Watching.

Around **70 students** along with their teachers and parents were part of the session. Initially students were divided in a group of 10. Various teams covered various spots of the Park for 1 hour. In the end, the team who spotted

maximum birds were declared as winners and were awarded. REEFian Rohit Hazare co-ordinated the whole activity.



REEFian Madhulika Dolke, Manas Agrawal and Rohit Hazare showing the children the photos of common birds to be spotted during the nature trail



Parents, teachers and students of Centre Point School Dhaba with the REEFians after the Bird watching session at Gorewada Biodiversity Park

Rajbhavan Project



Rajbhavan

Rajbhavan, the second residence of the Governor of Maharashtra, is a place of immense natural beauty and thriving avifaunal diversity. REEF members obtained the permission of Mr. Ramesh Yewle, the curator, to conduct bird watching trips at Rajbhavan. With the data obtained from over 97 trips conducted, spanning over 18 months from September 2013 to March 2015 REEFians have added 27 new bird species not existing in the earlier data of Rajbhavan.

REEFians are in the process of compiling all this data with photographs clicked by them and other details into a bird book - “Birds of Rajbhavan, Nagpur”.

The team comprised of REEF’s mentor faculty Dr. Deepshikha Mehra, Sneha Gupta, Supriya Kawadkar, Manas Agrawal, Harjot Singh Kahai and Rohan Dekate. The book would soon be published and is planned to be released at the hands of the Governor himself.

OTHER ACTIVITIES

Awareness trip to Waste Management Plant

REEF had made a report of creating RCOEM as a 'zero waste zone' during its participation in Techfest competition in October 2012. In order to renew and make further changes in it, REEFians 1st undertook an awareness trip to NMC's waste management and Sewerage treatment plant at Bhandewadi in Nagpur on 16th September 2014. Waste generated throughout the city creates hazards to health but to environment too. The visit to waste management plant brought interesting facts about automation in waste management, its effectiveness and the need for public awareness for waste segregation. 16 REEF members visited the two plants. Future activities based on the visit will be undertaken in the new session. Pratik Gupta, REEF member, coordinated this trip.



REEFians at the NMC Waste Management Plant at Bhandewadi

Pratik Gupta has been involved with the waste management domain of REEF since 2012. As a result he has taken up his **Final Year project on automation in waste management**. He will be using his technical knowledge and knowledge gained through REEF in this project.

Visit to Nagpur's Masonic Lodge

The name **Masonic Lodge** was looked upon mysteriously due to the portrayal of such societies in famous **Dan Brown books** and **movies**. This was the second time, a new batch of REEFians visited this society of freemasons who merely work for social welfare and upliftment without getting noticed or publicized for it.

REEFians Harjot Singh Kahai, Srushti Mehatkar and Omkar Kekre went to Masonic Lodge on **1st October 2015**. They were 1st shown the Freemasons Hall. They were explained in detail about the various Masonic instruments used in the architecture of the Hall and their significance. The history of Masonic Lodges across the world was also explained. Further the different activities conducted by different Masonic Lodges were highlighted to the audience. The evening concluded with a presentation on Masonic Architecture.

Workshop on Photography

To improve the photography skills, Sahil Dalvi conducted a workshop describing the basics of Photography especially Wildlife Photography. Information about the most basic elements of camera like various **shooting modes**, **white balance** was described. Then **Light triangle – ISO, Shutter Speed, Aperture** were taught to the fellow REEFians following the difference between **Auto Mode** and **Manual mode** was elaborated.

Workshop on Post-processing on Photoshop

Since the templates used for Social Outreach domain for the purpose of Awareness are mainly made using **Photoshop**, REEFian Manas Agarwal conducted a workshop describing the basic tools of Photoshop software to the fellow REEFians. In the workshop, a detailed description of every tool was given. The use of tools like **Dodge Tool**, **Pen Tool** and **Heal Tool** was illustrated through practical examples.

Photography Workshop by Salil Tambe, Bird Katta

A photography workshop was organized by Bird Katta. Bird Katta is an interactive group of active members from all walks in Nagpur. Salil Tambe, a renowned photographer offered the students certain photography tips and guided them on the right track for acquiring skills in photography. REEFians Sneha Gupta, Manas Agrawal and Sahil Dalvi participated in the workshop.

Pench Workshop on Moths and Butterflies

Ten REEF members Harjot Kahai, Sahil Dalvi, Hitesh Goyal, Indrayani Thakare, Omkar Kekre, Shivam Agarwal, Mayuri Kotian, Taneesha Godre, and Shreyas Khandelwal accompanied by REEF mentor faculty Dr. Ms. Deepshikha Mehra attended a workshop on “Moths and Butterflies” at Pench Tiger Reserve (PTA) at Amaltas conference center, Sillari on 5th and 6th September 2014. The workshop was organized by an NGO ‘Mad over Wild’. On 5th September a session was conducted by Neha Mujumdar, a Lepidoptera (Moths and Butterflies) expert where REEF members were introduced to the lives of moths and butterflies and their significant place in the ecosystem. At night a practical session was conducted where the participants were asked to identify moths that appeared on special lights put up to attract moths. On 6th the participants of the workshop were taken on a guided nature walk in the buffer area of the Tiger Reserve where they were given exposure to various elements of biodiversity. The workshop ended with distribution of certificates.



- 1) REEFians attending the workshop on moths and butterflies organised by “Mad Over Wild”
- 2) REEFians along with other participants on a nature trail at Pench Tiger Reserve

Srushti Parvayaran Mandal Photography Exhibition

Srushti Paryavaran Mandal is a non-governmental organization working towards the betterment of environment and wildlife in Central India. They had organised a photo competition cum exhibition on 16th, 17th and 18th of January at Lokmat Building.

One of the photos taken by Dr. Deepshikha Mehra during the REEF's Tadoba Educational Tour was short listed and displayed at the exhibition. REEF had also donated the photos they clicked to this NGO as a contribution to their objective.

Tadoba Coffee Table Book

The **Tadoba Coffee Table Book** is a rich collection of the history of the Tadoba Reserve, the details about the surveys taken place and the other facts and information about Tadoba.

A photograph taken by Dr. Deepshikha Mehra was invited and published under the “**The Tadoba Inheritance**” section of the Coffee Table Book. Wildlife photographers were invited through a competition organized by Sanctuary Asia. The winners of this competition got an opportunity to get their photos published in the Tadoba Coffee Table Book.

Wagh Utsav

Wagh Utsav, a photography competition and exhibition was organized and sponsored by VED (**Vidarbha Economic Development Council**) and **Madhyadakshini**. The competition invited 3 photographs from all the participants. The theme of the competition was “**The Splendours of Tiger Country**”. The exhibition dated from 20th February to 22nd February 2015 at Ravindranath Tagore Art Gallery, Nagpur.



Ms. Sneha Gupta from REEF bagged **3rd prize** for her photograph of the tigress **Maya** which she had recently clicked in REEF's educational trip to Tadoba, and was rewarded with a **Nikon camera** and a **One day trip to TATR (Tadoba Andhari Tiger Reserve)** in this competition.

EVS Presentation



REEFian Madhulika Dolke presenting REEF activities as a case study to the class

Madhulika Dolke delivered a presentation in her class of 2nd Year Electronics and Communication as an Environmental Studies presentation. She explained why it is necessary to have a register of flora and fauna in the campus and how REEF is contributing in recording the diversity of the college campus effectively.

The subtopics were –

1. What is GBBC?
2. Why do we count birds?
3. What is a herbarium?
4. Why do we need a herbarium?

The presentation was well received by the faculty in-charge and the students.

Tadoba Educational Field Trip



REEFians during the Buffer Zone Safari At TATR

A group of 17 REEFians visited Tadoba Andhari Tiger Reserve (TATR), Chandrapur, Maharashtra on **13th February 2015** as an educational field trip. The areas covered in the trip include major part of **Katezhari** and **Kolara** (the core area) and **Navegaon meadow** (rich bird life area). A trip of 3 days turned out to be very lucky as REEFians witnessed the sight of some very rare bird species of **Painted Sandgrouse** and **Asian Paradise Flycatcher**.

The very highlight of this visit was the 3 times sighting of a tigress named **Maya** or **P2** within the span of 3 days. Other miscellaneous activities that everyone actively took part in were the **Sky Gazing** and the small birding trips around the place.

REEFians did safari of the core zone as well as the buffer zone to explore the wildlife and the natural beauty that Tadoba opens up for its visitors. REEFians also learned some forest management strategies as well as the rehabilitation project that was ongoing in Tadoba to prevent man animal conflict. The discussions during the spare time ranged from the issues with the forests as well as animal conservation especially tigers and the protection of tiger corridors.



REEFians in the dormitory at FDMC guest house, TATR

The sky watching at late nights in the crystal clear sky, the mesmerising sunsets and a wonderful forest with a variety of flora and fauna gave the photographers of REEF an amazing landscape to practice and improve their skill and unforgettable experience to all.

Nisargayan Workshop

Nisargayan ('Nisarga' meaning 'Nature' and 'ayan' meaning 'moving towards') was a one day seminar/interaction with **Mr. Dilip Kulkarni** and **Dr. Poornima Kulkarni**.

The Kulkarnis are a couple living in a small village in **Kudavle** in **Konkan**, western Maharashtra having giving up their professional careers after the reality of the infinite faults in the urban way of living struck them. Since then they have been trying to create awareness through a periodical newsletter, residential camps and workshops with one simple goal- making more people move ahead towards nature.

REEFians Rohan Dekate, Omkar Kekre, Manas Agrawal, Rohit Hazare and Madhulika Dolke had an opportunity to attend this one day workshop on **8th March 2015** at Shivaji Nagar Sabhagruha, Nagpur.

The complete day was dedicated towards understanding what nature is, what is the role of mankind in it and how we are failing to do it? It helped REEFians to understand how the development strategies followed by most countries are wrong and why they should move towards a sustainable lifestyle that also drives economies without harming the environment.



REEFians with Dilip Kulkarni and Dr Poornima Kulkarni after the workshop

A video which recently made a buzz on the Internet made by the **Story of Stuff Project** team and delivered by its founder **Annie Leonard** was shown to the participants dubbed in Marathi. The video showed how the retail chains are harming the environment by making humans crave for newer products that are not eco-friendly. The workshop also cleared the most important doubt of how we should act so as to correct the wrongs that are being done to nature from mankind.

The course of action given by Mr. Kulkarni was very simple – “**Start with yourself**”. Instead of waiting for the government to change development goals you start changing them for yourself and try to convince people around

you. Not doing anything just because it won't be enough is the biggest sin one can do. It was an eye opener for the participants and REEFians alike to have attended such a workshop aimed solely for sustainable well-being.

Alag Raha: Interaction with Achievers:

REEFians Sneha Gupta, Rohan Dekate, Omkar Kekre, Supriya Karwadkar, Madhulika Dolke attended an interactive session Alag Raha. "**Alag Raha**" meaning a "**Different Road**" in Hindi, is an initiative of Prayas Foundation. It is a monthly event showcasing life journeys of real life heroes like any other person living in a neighbourhood so that people learn what made them stand out from the crowd.

REEFians had a novel opportunity of attending one of its episodes on **12th April 2015**. The story of the month was **Success, Satisfaction and Career**. The three speakers of the episode were-

Rohan Chakravarty:

A cartoonist, illustrator and animation designer. Rohan, a dentist by profession, gave up dentistry after an encounter with a tigress bathing in Nagzira Wildlife Sanctuary and took up drawing for wildlife and conservation.

Tarique Sani:

Paediatrician and a forensic expert, a passionate PHP (Hyper Text Pre-processor) geek and currently CTO (Chief Technology Officer) at SANISOFT. Also a bird watcher, photographer, nature lover and FOSS (Free and Open-space Software) enthusiast.

Anil Pimplapure:

A well-known dentist of Nagpur. Better known for his contribution in the protection of endangered birds, wildlife and forests.

The REEFians who attended this session got to learn a lot from the real life experiences of these people. How balancing your profession and your passion or even better-making your passion your profession is important. And as one of them said walking up to know that you will be working for completing your dreams and not someone else's is the ultimate satisfaction in life.

DOMAIN: SOCIAL OUTREACH

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

REEF has an active Facebook page which has close to **2000** likes. On the Facebook page, REEFians educate citizens using various informative templates-

- Important environment days observed
- Festivals and their environmental impacts
- Pollution in different Indian cities
- Offline notices on college notice boards
- Interesting facts about wildlife and environment in general

Recently REEFians have started with **EnviroQuiz** - 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. The quiz has been well received online as it regularly gets answers.

REEF has also opened 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.

Awareness via Posters

REEFians had made posters to mark important environmental days such as **Ozone Day (16thSeptember)** and **World Water Day (22nd March)**. These posters were put up on notice boards of all branches as well as around campus to spread awareness.



Posters made by the Social Outreach Team on various notice boards in the college

Sarcastic and humorous posters telling the importance of **climate change** and **Diwali** festival grabbed many eyeballs. Posters were mostly handmade which made an impact among the students.

DOMAIN: ARTICLES



The Articles domain in REEF is entitled to prepare the Annual Report as well as write articles for various newspapers and magazines. In this process REEFians build their skills of technical writing, sound vocabulary that would help them professionally in the future.

REEFlog – A Blog by REEF

The Articles domain has initiated a blogging website called “REEFlog” (<https://rcoemreef.wordpress.com>), which provides a platform to REEFians for putting up and sharing their ideas, articles, poems and write-ups on environment or anything related to nature.

REEFians have penned down their ideas on multifarious topics such as – encroaching the tiger corridors, desertification, carbon footprint, quality of air, bird-watching experience and many more. REEFlog is gaining popularity among masses and soon it is going to invite write-ups from outsiders on other topics as well.

DOMAIN: PLANT IDENTIFICATION

Herbarium is an ongoing project undertaken by REEF. Its main objective is to make a **biodiversity register** of the flora of college campus. This will enable us to know what kind of diversity of trees and shrubs exists in the college. Also the herbarium will serve as a proof of the existence of certain plant species in case it gets extinct in the future.



REEFians numbering Trees in the campus. 864 Trees were numbered and 35 species were collected

REEFians have consulted experts in taxonomy from Nagpur University to learn the process of making a Herbarium.

This project was started in February 2015 and had two main parts-

1. Numbering trees
2. Collecting samples

REEFians have numbered **864 trees** and **35 species** have been collected and preserved. Further REEFians intend to identify and study the distribution of various species found in the campus.



OBJECTIVE #2



“To establish active association with various organizations working for environmental conservation”

REEF has set up close associations with various eminent organizations of regional, national and international stature. Below is the list of organizations with which REEF is in constant contact in order to learn and collaborate in their projects, activities or workshops to conserve the environment and its constituent components:-

1. **Sanctuary Asia:** India's leading environment magazine started by Mr Bittu Sehgal.
2. **Wild-CER** (Wildlife Conservation, Education and Research): a regional organization started by Nagpurian Dr. Bahar Baviskar.
3. **Rajbhavan** Authorities: It is the residence of the Governor of Maharashtra.
4. **eBird** and **Cornell Lab of Ornithology, USA.**
5. **Wipro.**

In the process REEF has also established active contacts with following people who are renowned for their efforts in conservation:-

1. Mr Rohit Chakravarty
2. Mr Rohan Chakravarty
3. Dr Anil Pimplapure
4. Dr Tarique Sani
5. Dr Bahar Baviskar
6. Sanjay Kholia
7. Avinash Londhe
8. Surendra Agnihotri
9. Sudhanshu Kothe
10. Vinit Arora
11. Nitin Marathe
12. Yogendra Pathak



OBJECTIVE #3



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

DOMAIN: BALSADAN

The aforementioned objective is fulfilled by this domain. This domain is led by Vishakha Jaiswal and Sudip Banerjee. The main goals of this domain are:

- Proficient teaching techniques
- Introduction to computers
- Promoting sports
- Inculcating scientific approach
- Developing eco-friendly attitude
- Encouraging teamwork
- Imbibing practical and problem-solving approach

Considering all the above points, a systematic time-table has been chalked out where REEFians visit Balgram on a regular basis and help children with their studies. REEFians Sneha Wilson, Ashish Chandan, Bhagyashree Girhe, Radhika Kale, Kritika Joshi, Omkar Kekre, Monali Daburkar, Madhulika Dolke teach children on a regular basis. All their queries and doubts in subjects such as **Mathematics, Science, Social Science** and **Languages** are cleared.

As REEFians started teaching the students they realized that the children needed more attention than just doubt clearing and teaching the subjects. They were very poor at basic communication skills and some of them could not read and understand English. They had been passing in schools because of the all pass policy till 8th standard.

Hence a plan to improve their basic **communication skills** and basic **mathematics** was made which aimed at making them able to read and understand English and solve basic problems of mathematics irrespective of their standards.

As the children belonged to a poor economic background and were raised by a single parent they also had poor social ethics. They were also facing problems with each other which were leading to fights between them. This issue was dealt by Aaditya Somani by counselling them.



REEFians teaching the students and clearing their doubts

REEFians focused on building their internal bonding with each other and also their bonding with REEFians. The birthdays of all the kids as well as REEFians are celebrated in Balsadan with the kids.



- 1) REEFians Omkar Kekre and Sahil Dalvi teaching children solar system through a game
- 2) Assessment of Balgram children

Efforts were made by REEFians to improve their **geography** by teaching them how to read a map. Sahil Dalvi and Omkar Kekre taught the kids how solar system works with help of a game. To increase their bonding they were given tasks like making charts of tables. The annual general body meeting of REEF was also held at Balsadan. Extra-curricular activities are also taken up with studies. Values of **environment conservation** are imbibed in them through various fun activities.

Children have also been a part of the **Rajbhavan Nature Trail** organized by REEF during **GTD (Global Tiger's Day)**. Such activities give them an insight into nature and its beauty. Birthdays of children as well as REEFians are celebrated with zeal and fervour. Children have gradually struck a chord with REEFians and are very comfortable with them. Hence, it becomes easy to imbibe all the qualities in them in a friendly manner.

OBJECTIVE #4

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

Publications

REEFians Sudip Banerjee, Ashish Chandan and Rohan Dekate conducted a survey in Empress Mall asking the people about their thoughts on vehicle pooling and if they practice it in their workplace or otherwise. A small questionnaire was prepared and asked to a number of people of different professions. The report titled **“Vehicle Pooling: Environment Conservation or Economic Necessity”** was published in the college newsletter, **REFLECTION**. REEFians Rohan Dekate and Madhulika Dolke also published their respective articles in the **Technovision 9.0 magazine** of the college.



REEFians Sudip Banerjee and Ashish Chandan conducting a survey in Empress Mall, Nagpur regarding Vehicle Pooling

WIPRO Earthian

REEF members had participated and have been adjudged as the **winners** of **Wipro Earthian 2014**, an international competition for schools and colleges. The winning team comprised of the team guide and mentor faculty of REEF Dr. Deepshikha Mehra, team leader Rohan Dekate, Aaditya Somani, Manas Agrawal, Vishakha Jaiswal and Radhika Kale. The college and REEFians have been awarded a prize money of rupees 1.5 lakhs and had been invited to Bangalore for the prize distribution and **CEP (Continuing Engagement Program)** interaction on **7th and 8th of February** respectively. They have emerged as a winner of this international competition among with India's other premier institutions like **IISc Bangalore, IIM Indore, NIT Trichy, XLRI Jamshedpur**, etc.



REEFians Radhika Kale, Rohan Dekate, Manas Agrawal, Aaditya Somani, Vishakha Jaiswal with Dr. Deepshikha Mehra with the trophy

The tasks that the team had to complete were to obtain the **ecological footprint** of the college and compare the data with regional, national and international standards. It involved gathering of data from various offices and departments of the college as well as the civic authorities of Nagpur like water, electricity, fuel, etc. and a comprehensive report on the impact of the consumption was prepared. The other task was to **select two out of the four themes** enlisted by Earthian and answer the questions provided in an essay format and submit it as a **research paper**. It involved critical review and

analysis of the existing literature and combination of current world problems and finding a plausible solution.



- 1) **REEFians receiving the award at the hands of Azim Premji at Bangalore**
- 2) **REEFians being felicitated by Banwarilal Purohit and Principle, Dr. R. S. Pande**

The objective of the entire Earthian program is to inspire school and college students alike regarding **sustainability** and its urgency in today's rapidly changing scenario of unchecked technological advancements and environmental degradation. They met and interacted with some of the top minds in the field of sustainability from different domains like conservationists, archaeologists, scientists etc. They also got the chance to have a **Q&A session with Mr Azim Premji**, founder and Chairman of Wipro and **Mr. Anurag Behar**, Chief Sustainability Officer at Wipro. REEFians also visited the Wipro facility in Sarjanpur, Bangalore which also comes under the SEZ (Special Economic Zone) to know more about efforts taken by Wipro in their facilities towards sustainability.

Wipro Earthian Internships:

As an extension of the **CEP (Continuous Engagement Program)** by Wipro Earthian, the students had been offered internships in eminent institutions across India. The entire Earthian winning team got shortlisted in their respective internships. Rohan Dekate was shortlisted at **CDP (New Delhi)**, Vishakha Jaiswal and Radhika Kale were shortlisted and selected in **BIOME (Bangalore)** and Aaditya Somani was shortlisted and subsequently selected for **BCIL Factor Four(Bangalore)**. Manas Agrawal was shortlisted and subsequently selected as an intern at **TRUCOST in Mumbai**. His internship involves capital evaluation and lasts for four weeks.

Wildlife Conservation System

Forests are an important resource for industries as well as humans who are dependent for their livelihoods on this resource. However, it is this very resource which is under threat from humans. They need to be tackled so that they could sustain for eternity. Keeping this in mind, REEFian Aaditya Somani, Vishakha Jaiswal, Radhika Kale used their knowledge of electronics in making a kit which would include various instruments that would directly/indirectly help in conserving the wildlife as well as the forests.

1st of all they were interested in monitoring the animal movement. Till date **camera trap** is the most efficient way for population census. It basically captures the images of any movement happening in front of it. But the issue with them was that they were fixed at one place (i.e. tree). So if there was any movement behind the tree, it was missed. They made it **rotating** so that the entire area could be covered. They thought of making a "**Fire Alarm Circuit**" which works on the simple principle of TDR. Both these systems are a part of the kit. So the kit not only monitors animals but also helps them in case of a fire outbreak.

A basic kit was made as a part of the 6th semester Mini project. The Wildlife conservation system would be taken up as a **major project** and a more comprehensive kit would be developed. While working on wildlife conservation project they came to know about the problems with water as water quality monitoring is also essential for the health of forest creatures. They are extending their wildlife conservation project in making a water quality monitoring device in it as well as embedding wireless communication in case of fire. This project would extend from the 7th to the 8th semester.

FUN AND FROLIC @REEF

Gala Times

REEF has successfully completed three years since its installation in RCOEM. Hence, REEF's 3rd anniversary was celebrated with great exuberance and high spirits. All the past activities were recalled and the celebration spirit was doubled.



REEFians had also planned a farewell party to bid adieu to the senior members of REEF – Sneha Gupta and Pratik Gupta. It was a light-hearted affair and nostalgia was in the air.

REEF T-Shirts

This year, customized t-shirts of REEF were designed for REEFians. Manas Agrawal played a key role in the designing the t-shirts. REEFians have got a new identity due to the REEF t-shirts and people have started recognizing REEF. The t-shirt design symbolizes various activities and domains of REEF viz. Balgram, Waste management and Bird Conservation.

FUTURE COURSE OF ACTION

With renewed faith in our capabilities and determination along with the experience and success we had in the year 2014-2015, REEFians intend to do the following tasks in the upcoming academic session.

- ❖ Global Tiger's Day
- ❖ Lecture on Bird Rescue, Monitoring and Conservation by eminent experts
- ❖ Outing with Balgram kids to Raman Science Center to instil scientific attitude
- ❖ Publication of Earthian research papers in journals
- ❖ Completion of Herbarium and Notebook recycling activities
- ❖ Open REEFlog to accept articles from readers outside
- ❖ Participate in a national/international level competition along the lines of Earthian and sustainable development involving engineering approach
- ❖ Start work on Bird Website, a gallery of photos clicked by REEFians
- ❖ Build an Android App for Bird identification

