



DCT's
Dhempe College of Arts and Science
Miramar, Goa

'Saim-Saangaat': For Nature, With Nature

GREEN ACTIVITIES REPORT 2015-16 to 2019-20

Preamble:

Since its inception in 1962, Dhempe College of Arts and Science has been involved in practices that seek to contribute towards environmental sustainability. Presently, the institution's Green programme aligns itself with the Sustainable Development Goal of taking impact-driven Climate action by reducing carbon footprint and promoting healthy resource-management by keeping the environment clean. It also identifies proactive participation in the national *Swachhta Abhiyan* as one of the key measures in achieving sustainability. The programme has been designed to address some key problems pertaining to climate change, plastic-consumption, water-shortage, energy-deficiency, chemical pollution, inappropriate garbage-disposal, and waste mismanagement. Inadequate awareness, knowledge and sensitization are identified as lead factors that add to these problems. It was also recognized that students should be initiated into frontline roles as ambassadors of Green futures.

The institution has, therefore, adopted a systematic, phase-wise approach to initiate and implement sustainability-drives and practices in an incremental manner.

Objectives:

- 1) To contribute towards a greener environment and offer safer workspaces.
- 2) To make the campus and its surrounding eco-friendly.
- 3) To reduce institutional energy consumption.
- 4) To minimize institutional water-consumption.
- 5) To minimize use of chemical pollutants on campus.
- 6) To create awareness among stakeholders about their responsibility towards environment.
- 7) To make researchers aware about environmental problems faced globally and work towards solutions.
- 8) To train staff and students through environmental programmes and encourage participation in the mission to reduce carbon footprint.
- 9) To monitor and measure environmental impact and set goals towards reducing adverse impact on environment.

The activities conducted to create environmental consciousness are systematically formulated and documented and are as follows:

2015-16

▪ INSTITUTIONAL INITIATIVES

- 1) A Memorandum of Understanding has been signed with The Energy & Resource Institute (TERI) and National Centre for Antarctic & Ocean Research (NCAOR) in order to initiate green activities in the College.
- 2) Three faculty members from the Department of Biotechnology were registered as co-ordinators of TERI's project for one year to facilitate the preparation of People's Biodiversity Register (PBR) for the city of Panaji.
- 3) A Workshop on 'Calculation of Carbon Footprint for Teachers and Students' was organized.

▪ ACTIVITIES CONDUCTED BY VARIOUS DEPARTMENTS

- 1) **Department of Biotechnology:** a student prepared a documentary titled 'Rakhandar' which was based on Mr. Rajendra Kerkar's contribution towards the environment. This documentary was showcased at 'Kalakruti' – an Environmental Film Festival at Kala Academy and Kirloskarvasundhara Film Festival in Goa in 2016.
- 2) **Department of Botany** organized:
 - a) Tree-plantation program in the College campus wherein students of SYBSc exhibited one plant every week with its detailed description at the entrance of the Botany laboratory. The selected plant was declared as 'Plant of the Week'.
 - b) An exhibition on 'Medicinal Plants' by the students of S.Y. B.Sc.
 - c) A talk on 'Sustainable Agriculture' for FYBSc and TYBSc students.
 - d) Screening of a movie titled 'The importance of saving the environment' for students.
- 3) **Department of Chemistry** organized:
 - a) A lecture on 'Global Warming' by a scientist from National Institute of Oceanography (NIO).
 - b) A talk on 'Catalysis in Environment' by chief research scientist at Oil DRI Corporation, Chicago, USA.

- c) A poster competition on 'Toxicity of Chemicals on the Environment' for S.Y. B.Sc. students.



Talk on 'Catalysis in Environment'

- 4) **Department of Computer Science and IT** took an initiative to minimize the use of paper in daily activities. Some practices adopted were:
- Notices sent to faculty and students via SMS.
 - Study material and e-books uploaded and shared in an electronic form using Moodle/Google drive.
 - ISAs conducted as soft assignments, emailed/uploaded on MOODLE/online tests.
 - Using the blank sides of printed paper for rough work by students and staff.
- 5) **Department of English:** the faculty members encouraged the students of T.Y.B.A. to present papers on 'Ecology and Literature'. A student presented her paper titled "Nurturing the Nature: An analysis of Nature as represented in select fiction of Goan Writing in English and English Translation"; the paper was selected at the state-level students' seminar organized by Rosary College of Commerce and Arts, Navelim, Goa.
- 6) **Department of Economics** undertook the following activities:
- Students' field-visit at the Waste Management Plant, Panaji Goa.
 - Students' field visit to Mangroves, to understand the contribution of Mangroves to ecology.
 - Poster competition for students on sustainable development to create awareness on problems of global warming.



Poster competition on 'sustainable development'

7) **Department of History** organized:

- a) Poster-making competition on the topic titled "Save Environment".
- b) Movements to protect the environment of Goa such as the 'Chipko Coconut Andolan' from 11/01/2016 onwards by a faculty member. The said faculty member also filed a court case against the draconian anti-coconut amendment 2016 and planted saplings in the College campus along with History-Heritage Action Group: Goa on 05/06/2016.



Poster on Save the environment



Chipko Coconut Andolan

8) **Department of Indian Languages** organized:

- a) A Poster competition on issues pertaining to the environment.
- b) Plantation of saplings in the College campus along with History-Heritage Action Group.

9) **Department of Philosophy** organized:

- a) Collage-making competition on the topic 'Save Nature Save Man'.
- b) Competition titled 'Wealth out of Waste' for B.A students. Student prepared artifacts out of waste material.
- c) Awareness regarding harmful effects of pesticides in food items and environment for the students of Philosophy by screening a movie titled 'Slow Poisoning of India – Harmful Effects of Pesticides'.
- d) Talk on 'Individual's Role in Protection of Environment and Reciprocal Duty Towards Nature' for inculcating environmental ethics into students.

- e) Presentation on the topic, 'Effectiveness of Religion in Protection of Environment' by students.



Collage making competition on the topic 'Save Nature Save'

ACTIVITIES BY NSS AND NCC

1) National Cadet Corps organized

- Poster-making event on 'Waste Management'.
- Street play on 'Swachh Bharat Abhiyan'.
- Tree Plantation in the College campus.



Street Play on Swachh Bharata Abhiyan



Tree Plantation in college campus

2) National Service Scheme Unit organized:

- Campus cleaning activity in the lawn, parking area, surroundings of canteen as well as in the classrooms to render them garbage-free.
- Preparation of cloth-bags to reduce the use of plastic.

- c) Beach-cleaning drives.
- d) Cleanliness in the adopted village of Penha de Franca.
- e) Competition was organized on the theme, 'Bags out of old clothes' for NSS volunteers.



Beach Cleaning



Cleaning of village Penha de Franca



Talk on Ecology & Youth



Best out of waste competition

2016-17

▪ **INSTITUTIONAL INITIATIVES**

- 1) In collaboration with TERI a program to create awareness and encourage student-participation in environment-related issues was organized on 24/08/2016.
- 2) 26 students from F.Y.B.A. & F.Y.B.Sc. volunteered to undertake a study on ecology-related project under the guidance of TERI which involved a student training programme.
- 3) The institution replaced 47 fluorescent tube lights from the first floor of the Library Building with 22 LEDs, keeping in mind the commitment of reducing energy-consumption. The entire library building currently uses LED lights. This has helped in reduce energy-consumption in the Library Building.

▪ **ACTIVITIES CONDUCTED BY VARIOUS DEPARTMENTS**

1) **Department of Physics undertook:**

- a) The procurement of two solar panels of 75 watts each. The output generated supplies energy to six parking lights of 9 Watts each in the College campus. The energy generated from another 35 Watts panel powers three LED bulbs in the Physics staffroom.
- b) A workshop on ‘Calculation of Carbon Footprint for Teachers and Students’ 21/10/2015 and 31/08/2016 with Mr. Vivek Arora as a resource person.
- c) The calculation of Carbon Footprint for the College.
- d) The Green Surveillance Audit in September 2016.
- e) A talk on “Effective Microorganisms” on 20/04/2017.
- f) A ‘Sky Watching’ programme for the village Penha de Franca with Association of Friends of Astronomy (AFA), Goa.

2) **Department of Geology organized:**

- a) A visit at the ‘Water Harvesting Plant’ of Goa University by the students.

3) **Department of Zoology organized:**

- a) A poster competition depicting the significance of River Mhadei in Goa on 24.08.2016.
- b) A bird-watching programme for students of S.Y.B.Sc. in association with the Department of Forest, Government of Goa on 08/02/2017, highlighting the significance of earthworms for clean and green environment.
- c) A sensitization programme on ‘Environmental Awareness’ followed by a presentation and short film on Vermicomposting for B.A./ B.Sc. students in the Seminar Hall on 15/02/2017. The presentation provided information about the methods involved in converting organic garbage into compost that can be used as a manure for plants.



Various ecological shades at Poster competition



Programme on Environmental awareness

4) Department of Biotechnology undertook:

- a) A visit to Butterfly Conservatory Park, Ponda for students of F.Y.B.Sc on 19/09/2016.



Butterfly Conservatory Park, Ponda

- b) A field visit to Keri Sattari to study about fishes for the students of S.Y.B.Sc on 28/09/2016.



Keri Sattari fish farm

- c) A field visit to Dr. Salim Ali Bird Sanctuary, Chorao, for students of S.Y. B.Sc on 01/02/2017.



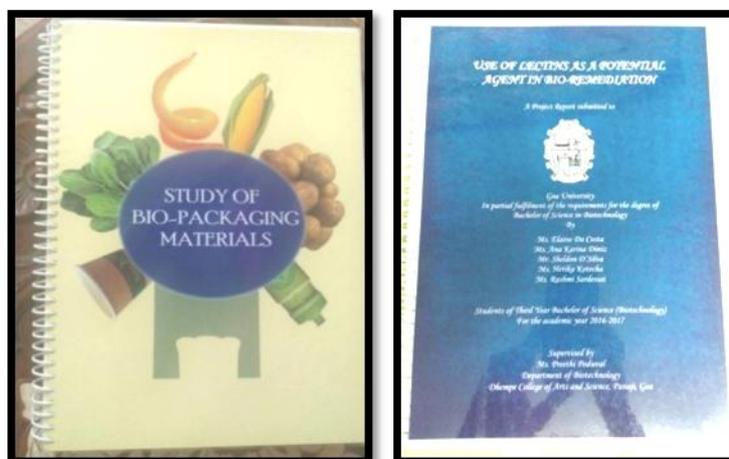
Dr. Salim Ali Bird Sanctuary, Chorao

- d) A field trip to Carambolim lake for the students of S.Y.B.Sc on 15/02/2017.
e) A visit to Sewage Treatment Plant, Tonca for the students of T.Y. B.Sc as part of their curriculum on 22/03/2017.



Sewage Treatment Plant, Tonca

- f) Participation of three T.Y.B.Sc. students at the three-day International Conference on ‘Agricultural Sciences and Food Technologies for Sustainable Productivity and Nutritional Security’ held at the University of Agricultural Sciences, Bangalore on 25/08/2016 to 27/08/2016.
- g) Participation of faculty members at the skill-development workshop on ‘Home Gardening’ organized by the Department of Biotechnology, Goa University on 31/08/2016.
- h) Participation of F.Y.B.Sc. students in poster-making competition on the topic ‘Biodiversity in Mhadei’ on 24/08/2016.
- i) Environment-based research projects by the T.Y.B.Sc. Biotechnology students for the academic year 2016-2017.
- j) Completion of research projects by T.Y.B.Sc. students on topics of pressing issues such as biopackaging and bioremediation that would help the mankind and ecosystem during the academic year 16-17.



Project work in ecological issues

- k) Poster-Presentation at the National Seminar on ‘Biopolymers and Biosensors - What’s New, What’s next?’ ‘organized by P.E.S’s Ravi S. Naik College of Arts and Science on 25/02/2017. The project work on the topic of ‘bioremediation using lectins’ presented by the T.Y.B.Sc students won the first place and that on ‘ biopackaging materials’ won the second place at the poster competition.
- l) Analysis of potable water-quality of the samples collected from different sources in the College premises to identify the presence of pathogenic faecal coliforms on 11/04/2017.
- m) Screening of movie titled ‘*The effects of different environmental pollutants on human life*’ for F.Y.B.Sc students as part of Personality Enhancement Programme on 01/03/2017.
- n) A talk on ‘Importance of Agriculture Science in India’ by a Project Scientist, ICAR-Goa for S.Y. B.Sc. students on 08/03/2017.
- 5) **Department of Chemistry:** Organized a rangoli competition on the topic ‘Environmental Chemistry’ for T.Y.B.Sc.students to create awareness of environmental pollution among the students on 20/08/2016.



Depicting environmental issues through Rangoli

6) Department of English: A faculty member undertook a Minor Research Project sanctioned by University Grants Commission on the topic, 'Ecological Consciousness in Goan Cultural Signifiers' (2015-17).

7) Department of History undertook:

- a) Active participation by a faculty member in saving Dele Natural Heritage Spring, Margao Municipal Heritage Building, Quelshi natural heritage site, St. Francis Xavier Chapel at Fatorda, Chicalim Caves, Betul fort, Chapora fort & Siolim natural heritage site, Chimbhel lake and the Gavona pond in Carmona.
- b) Plantation of saplings in the College campus along with History-Heritage Action Group, Goa to commemorate the World Environment Day on 05/06/2016.
- c) Formation of a new group titled, 'United for Mother Goa' by a faculty member to save environment.
- d) Efforts for protection of Betul Fort on 01/02/2017.
- e) Initiatives in formation of Biodiversity Board in Chicalim so that Chicalim Caves could be notified through Goa State Biodiversity Board from 09/02/2017.
- f) Participation in the campaign to preserve the Natural heritage of Salmona, Saligao, Goa on 27/03/2017.
- g) Participation in the prohibition of hill cutting at Agasaim on 01/04/2017.
- h) Visit to Tiracol Fort to inspect the fort and protest against hill cutting on 02/04/2017 followed by a protest against hill cutting in Batim on 06/04/2017.

8) Department of Indian Languages undertook:

- a) A poster-making competition on the theme 'Save Earth, Save Man' involving the participation of 15 students on 28/09/2016.

9) Department of Philosophy organized:

- a) The screening of a video on 'Evolution of earth and human as a part of nature' on 18/01/2017.
- b) An ecological survey by students in areas such as Chimbhel, Mercês, Santa Cruz and other local/public places of Panaji like the KTC Bus stand, Panaji market etc. The survey included asking residents of the selected places questions about the issues faced by them due to environmental pollution. As a follow-up activity, students participated in the cleanliness of the polluted areas on 19/02/2017.
- c) A street play on the topic 'awareness programme on garbage issues in Goa'. The locals were sensitized about the importance of cleanliness in the surrounding areas, the need to promote and protect the environment and health issues arising on account of accumulation of garbage in the surroundings on 23/02/2017.
- d) A trip to organic farm on 27/02/2017 at Taleigao for 22 students to demonstrate the importance of organic farming and create awareness about the harmful effects of pesticides and chemical fertilizers on health. The visit also created awareness about the availability of organically grown vegetables.



*Awareness programme on
garbage issues*



Organic farming at Taleigao

▪ **ACTIVITIES BY NSS**

1) **National Service Scheme Unit undertook:**

- a) Preparation of cloth bags & paper bags which was later donated to the shopkeepers in the Panaji market.
- b) Beach cleaning drives by the NSS volunteers on 02/10/2016

2017-18

▪ **INSTITUTIONAL INITIATIVES**

- 1) The institution celebrated Green Day on 28/07/2017 and organized a plethora of activities to kindle ecological consciousness among students and staff members.



Inauguration of Green Day

- Events were undertaken the departmental level, some of which are as follows:
- a) Tree-plantation drive by NCC cadets and NSS volunteers.
 - b) Poster competition by the Faculty of Arts on ‘Conserving the Environment’.
 - c) Rangoli competition by Department of Chemistry on the theme, ‘Environmental Degradation’.
 - d) Poster competition by Department of Geology titled, ‘Climate Change and CO₂ Sequestration’.
 - e) Skit staging on environmental awareness by Departments of English, Philosophy, Indian Languages, Economics, Psychology and Political Science.
 - f) Musical presentation on ecological issues by Departments of Political Science and English.
 - g) Joint quiz competitions by Departments of History, Indian Languages, Mathematics and Political Science.
 - h) Presentation on ‘Sustainable Development’ for the students of S.Y. B.A and T.Y. B.A by the Department of Economics.
 - i) Screening of documentary on ‘Environmental Awareness’ and exhibition of creative and useable articles made from waste materials by the Department of Philosophy.
 - j) Screening of movie, ‘The Environmental Problems in Bhutan’ and poster-making on ‘Environment’ by the Department of Mathematics.
 - k) Scripting and direction of two street plays ‘Paryavaran vachva, Desh vachva’ and ‘Nital Bharat, Sobit Bharat’ by faculty members of the Department of Indian Languages (Marathi).

▪ ACTIVITIES CONDUCTED BY VARIOUS DEPARTMENTS

1) **Department of Biotechnology organized:**

- a) Screening of an animated movie on ‘Importance of waste-segregation’ on 26/07/2017.
- b) Visit to Saligao Garbage Treatment on 26/07/2017.
- c) Presentation by T.Y.B.Sc. Biotechnology students on environmental issues such as phytoremediation potential of various local plants found in Goa and Biofibre production from food waste.
- d) Debate for the students of F.Y.B.Sc. and S.Y.B.Sc. on ‘Plastic – Should it be banned?’
- e) Plantation of medicinal plants in the college campus by students. Students were also given the responsibility of taking due care of the sapling planted.
- f) Preparation of manure out of wet waste generated in the Department.

2) **Department of Economics undertook:**

- a) A visit to the Patto Garbage Dumping area by the students of T.Y.B.A on 29/06/2017 as part of the course on Environmental Economics where students learned to account for environmental damage caused by the different pollutants.
- b) Field visit for students of T.Y.B.A on 07/07/2017 to analyse environmental damage due to conversion of land at Bandodkar Stadium.
- c) Lecture on Carbon Footprint for students of T.Y. BA and S.Y. BA on 04/07/2017 delivered by Resource Person from Department of Physics. Following this, students calculated the carbon-footprint generated in their living spaces; and created awareness in their neighbourhood.
- d) Assignments by students on environment-based topics such as ‘causes of pollution at Miramar beach and Campal lake’; ‘issues of malaria’ and ‘improper garbage disposal’; ‘consumer awareness about refrigerators and their impact on environment’.

3) **Department of Geology organized** a talk on ‘Green Technology for Sustainable Development’ on 26/07/2017 by Ms. Kavita , Research Associate from TERI



Green Technologies for Sustainable Development

4) **Department of Indian Languages organized**

- a) The screening of the Konkani movie 'Aleesha-Part I based on ill effects of mining on environment' for students on 03/07/2017.
- b) Screening of the movie, 'O Maria' based on causes of deforestation for students on 27/07/2017.

5) **Department of Mathematics organized:**

- a) The participation in the inter-department poster competition on 'Carbon dioxide issues'.
- b) Screening of the short film on how 'Bhutan works to be Carbon Negative' for S.Y.B.Sc. students.
- c) Quiz competition on 'Environmental Issues' conducted for students of F.Y.B.Sc. Mathematics by the students of T.Y. B.Sc. Mathematics.
- d) PowerPoint presentation on the topic 'Rally for Rivers' for F.Y.B.Sc. Mathematics students to create awareness about the depleting river resources in India.

6) **Department of Philosophy organized:**

- a) A student discussion on 'Types of Nature Worship in Goa and Protection of Nature' on 14/07/2017.
- b) Awareness on the protection of nature through religious values and worship a field visit on 22/07/2017.
- c) Screening of documentary on 'Slow Poisoning India – the Harmful Effects of Pesticide on Health' as part of an attempt to promote green farming and healthy living among the students on 19/08/2017.

7) **Department of Physics organized:**

- a) Five-day course on 'Basics of Energy Management'.
- b) A talk by Dr. Lalit Giri -National Institute of Technology, on 'The Need for Alternate Energy Sources and Technology' on 06/09/2017.



Basics of Energy Management

Talk by Dr. Lalit Giri

8) **Department of Zoology organized:**

- a) A talk on 'Waste Segregation' on 12/07/2017.

9. Department of Botany and Green audit Committee organized:

- a) A workshop on Preparation of Effective Microorganisms (EM) for faculty members on 04/10/2017.



Hands-on workshop on preparation of EM

ACTIVITIES BY NSS

- 1) **The National Service Scheme Unit undertook:**
 - a) Swachhta drives and commemoration of Swachhta *Pakhwada*.
 - b) Sapling plantation.
 - c) Talk on 'Segregating Garbage'.
 - d) Awareness drives on Swachhta.

2018-19

▪ INSTITUTIONAL INITIATIVES

- 1) **Appointment of Green Ambassadors:** Since youngsters are the key builders of future, it is important to instil a commitment to environmental sustainability in them. The College, therefore, appointed **25 Green Ambassadors**. These students are given training in Carbon Footprint Calculation, energy audit, waste-management, and allied issues.
- 2) **Orientation Programme for Green Ambassadors:** An orientation was provided to the Green Ambassadors to give them green tips and information on the role that they can individually play in maintaining clean environment, saving energy, and conserving water. The orientation also provided useful techniques to the students in bringing about environmental preservation. The students were grouped in teams to clean and manage their own surroundings by becoming 'Dhempe Green Promoters'.
- 3) **Waste-management training for Green Ambassadors:** 35 Green Ambassadors were given training in Carbon Footprint Calculation, Energy Audit, and waste-management. Subsequently, the Green Ambassadors undertook cleanliness of the entire stretch of Miramar beach on 02/10/2018.



Talk on Waste Management



Talk on Carbon Footprints

- 4) **Green Audit Committee organized** an essay competition on 'Climate Change – Problems & Solutions' for the students; three best essays were selected and sent for the inter-collegiate essay competition held at the National Centre for Antarctic and Ocean Research (NCAOR). Essays by S.Y.B.Sc. students Ms. Rakshanda Naik and Ms. Sakshi Navelkar bagged the first and third prize respectively.
- 5) **Green Day Celebration on campus:** The Annual Green Day Celebration was organized on 03/08/2018. Departments from the Faculty of Arts and Science organized events ranging from poster displays, montages, poetry recitals to street-plays, quiz contests, debates and discussions with *nature* and *environment* as the central theme. The activity enabled students to reflect upon their role in building a synergistic and healthy ecosystem.

1) Department of Geology and Chemistry undertook:

- a) the annual assessment of water quality in the campus.

2) Department of Economics conducted:

- a) An outreach activity through which students from the Department were trained in the calculation of carbon footprint. As part of their assignment, students taught carbon footprint calculation to people in their neighbourhood. They also apprised them of ways in which sustainable alternatives can be used to reduce carbon footprint.

3) Department of Political Science organized:

- a) Plantation of saplings for a sustainable green future.

4) Department of Zoology organized:

- a) A field trip to Butterfly Conservatory at Priol, Ponda for Green ambassadors on 12/12/2018.



A field trip to Butterfly Conservatory

5) Department of Physics organised:

- a) The calculation of the institutional carbon footprint.
b) A talk on e-waste management for students and faculty members with Dr. Unnikrishnan and Mr. Anil Kumar, engineers of Green Wave Solutions, as the resource person.



A talk on E-waste management

6) Department of Chemistry organized

- a) A Two-Day International Conference on ‘Nano-materials for Environmental Applications’ organized by the College in association with Meijo University, Japan. The Conference viewed the ecological problem through extensive-global and intensive-local perspective and sought to initiate important dialogues towards the same. Through insights from 11 global experts, 49 paper presentations and insightful deliberations from 80 delegates, the Conference sought to ideate practical solutions to combat current environmental problems.

7) Departments of Botany and Economics organized:

- a) A Two-Day Workshop on ‘Prospects for export of vegetable produced by Goan farmers’ in association with Goa State Horticultural Corporation Limited, Directorate of Agriculture, Government of Goa and Bank of India, Zonal Office on 27/08/2018 and 28/08/2018.
- b) A faculty member from the Department extended her expertise in the identification of plants to students of M. Pharm (Goa College of Pharmacy) and V.M.S. College of Law
- c) A faculty member from the Department has collected and been promoting 32 varieties of rice to help local farmers.
- d) A faculty member, under the aegis of the NGO Gomantak Gauseva Mahasangh helps injured and stray cows.

8) Department of History

- a) A faculty member of the Department undertook initiatives towards preservation of environment and cultural heritage prominent among these being Mhadei and Kushawati heritage trails, petitions to save Raintrees and sites of historic value and cleanliness of Zuvem Fort and Sachdeo Memorial.



Cleanliness at Zuvem Fort

▪ **ACTIVITIES BY NSS**

1) National Service Scheme Unit undertook:

- a) Cleanliness drives in areas of Penha de Franca, Mercedes, Taleigao, Ribander, Chorao, Neura, Tonca, St Cruz, Nerul, Pilerne, Curca, Reis Magus, Betim, Caranzalem, Bambolim, Miramar bus stop, Maruti temple, Zuvem fort, Peace Haven school for Special Children, Disha School for Special Children and Children's Park, Malim-Betim and Sachdeo Memorial.
- b) A door-to-door Swachhta campaign to create awareness regarding garbage disposal and segregation.

2019-20

▪ INSTITUTIONAL INITIATIVES

- 1) The Green Audit Committee guided departments to do environment-related activities classified as:
 - a) Ecology-related research publications.
 - b) Training programmes for staff and students.
 - c) Talks by experts.
 - d) Competitions held for students.
 - e) Arrangement of field trips.
- 2) **25 Green Ambassadors** were appointed and these students were given training in Carbon Footprint Calculation, energy audit, waste-management and allied issues.
- 3) The following committees were formed for special emphasis in areas of ecological significance: (i) Landscaping (ii) Carbon-footprint Calculation (iii) Renewable Energy (iv) Waste Management and (v) Water conservation.

▪ ACTIVITIES CONDUCTED BY VARIOUS DEPARTMENTS

- 1) **Department of Zoology and Green Audit Committee** organized a talk titled 'Marine resources: its importance and conservation' for Green ambassadors, students and faculty members on 06/07/2019. The Resource Person was Dr. Anita George, Researcher in National Institute of Oceanography, who is the first woman scuba diver of India. She shared her experiences of diving in different parts of the world and showed pictures of organisms found in the sea from her photography collection. The conservation issues were stressed upon and causes of marine pollution and how it can be avoided was discussed. The students were highly influenced by the talk many questions were asked and few also interacted with the speaker personally.



Talk by Dr. Anita George

- 2) **Department of Physics organized:** a talk on waste-management by Dr. Unnikrishnan on 16/12/2019. The Resource Person explained the importance of waste segregation and management to the staff and students. He demonstrated the waste segregation and explained different methods of waste disposal.



Talk by Dr. Unnikrishnan

- c) a workshop on Carbon Footprint Calculation on 09/08/2019. The Resource Person of this workshop was Mr. Vivek Arora, Consultant for the Energy Audit and Carbon Footprint Calculations. 36 participants attended the workshop. They were provided hands-on training on calculation of carbon-footprint and given study material too. At the end of the workshop, participants answered a test in the form of self-assessment questionnaire. The exercise is found to help individuals understand their commitment to ecological betterment, take responsibility in reducing carbon footprint and make sustainable choices wherever possible.



Workshop on Carbon Footprint Calculation

3) Departments of Chemistry and Geology and Green Audit Committee organized:

- a) a training session on water quality analysis for students and teachers of the College on 7th February 2020. A faculty member from the Department of Geology delivered a talk on water sampling and the precautions to be taken while doing the same for water quality analysis. The demonstration of how to collect the water sample for analysis was also given. A faculty member from the Department of Chemistry gave a talk on the different chemical parameters necessary for water quality analysis. The specification of Indian standards for drinking water were also discussed. The fresh water samples collected were then analysed for parameters like pH, electrical

conductivity, hardness, acidity and alkalinity. 14 students and 03 teachers participated in the training.



Water quality Analysis-training

- 4) **Department of Political Science organized:** the annual Green Day of the college on 29/08/2019. The inaugural session was followed by the tree planting ceremony where all the dignitaries planted saplings in the College campus.



Inauguration of Green Day celebrations by the Chief Guest



Sapling plantation in the College campus

- 5) **Department of Psychology organized:**

- a) a talk on 29/08/19 on “Composting”. Shri. Abhinav Apte, General Manager in Lila-Digital and Environmental Solutions Pvt. Ltd., delivered a talk through the baseline of

his expertise in the field of water treatment, solid waste management, rain water harvesting etc. He gave valuable information about the way compost can be made at home and made students aware about why it is important to make compost out of the biodegradable waste generated at home. In order to give the students practical knowledge about the functioning of a compost pit, the second half of the session was spent near the Vermicompost pit in the College garden. Shri Apte helped students understand how the Composting is done with the help of various worms in a Vermicompost pit. In order to encourage the students, project 'Nirmaalya' was initiated. As part of this project, the students and staff of the college were urged to bring the Nirmaalya (the remains of flowers and leaves once offered to gods) after Ganesh Chaturthi and to respectfully dispose it in the Vermicompost Pit of the College instead of polluting the water bodies.

6) Department of History organized

- a) a poster exhibition on 'Save our environment' for SYBA and TYBA students. Specific themes like 'No to Plastic', 'Environmental movement in India', 'Save Trees Save Earth' and 'Reduce, Reuse, Recycle' were highlighted.
- b) a green campus tour titled, 'Talk and Green Walk' by environmental architect and activist Ms. Tallulah D'Silva to acquaint students with the ecological biodiversity in the institutional campus.
- c) a lecture on 'Solid-waste management' by Resource Person Mr. Dhananjay Gudi, Assistant Manager of Goa Waste Management Corporation. He spoke on various methods of solid-waste disposal, positive uses of waste and consequences of inappropriate garbage management.
- d) a snake-awareness and snake-bite protocol programme. The resource person was Mr. Charan Desai of SAWE (Study and Awareness of Wildlife and Environment), Animal Rescue Squad. A PowerPoint presentation on identification and classification of venomous and non-venomous snakes of Goa was done. A live snake demonstration was conducted to create awareness. Myths and misconceptions were debunked and facts were presented.



Poster competition on ecological issues



The 'Green' Walk in institutional campus



Talk on appropriate garbage disposal and management



Snake Awareness and Snake Bite Protocol Program

7) Department of English organized:

- a) a poster-making activity during which students were encouraged to make posters on the theme of *Environmental Sustainability*. Students were told to recycle and reuse material; posters were made with repurposed craft and chart paper.



Repurposing and upcycling for the environment

- b) a fashion show which encapsulated the theme of rejuvenating nature and restoring her gifts and glory. The costumes were hand-made by students. Plastic and metal items that were discarded were recycled and used as embellishments. They were presented with panache by the college ramp models accompanied by pulsating beats.



Fashion Show

- c) a flash-mob event where students of Third Year English rendered original poems, original techno-music compositions and well-known songs on ecology- friendly themes. The students selected an innovative strategy of flash bombing different spaces in the college like the canteen, gymkhana, Principal's cabin etc. to spread awareness on Green Day.

8) Department of Indian Languages

- a) organized a multi-lingual poetry recitation programme titled 'Kavita Nisargachya' wherein 15 students recited poems based on Nature. The programme was coupled with the multi-lingual poetry competition which was organized by the Department of Botany as part of Green Day celebrations.

9) Department of Economics

a) organized the Green Entrepreneurship competition. The term ‘green’ often refers to products, services or practices that facilitate economic development while conserving ecology for future generations. The aim of the event was to search for entrepreneurial qualities among the students and hone their innovative capabilities. The participants presented their ‘Green Business Ideas’ and were questioned by the judges.

10) Department of Chemistry

- a) a presentation competition was organized for T.Y.B.Sc. students titled ‘How to Make Chemistry Laboratory Greener?’.
- b) a photography competition titled, ‘Going Green’ for students of SYBSc. 09 students displayed their photographs capturing the thematic relevance of the competition.
- c) a poster competition on the theme ‘Green Chemistry, Clean Chemistry’ for students of FYBSc and ‘Green Chemical Reactions’ for students of M.Sc. Analytical Chemistry. 25 students participated in the event.



Presentations on ‘How to make Chemistry Laboratory Greener’



Nature through an ecological lens

10) Department of Botany organized:

- a) a competition on '*Hari Bhari Thali*' in which participants had to prepare a green dish at home and present it at the venue. Students were encouraged to use sustainable means of presentation.
- b) a nature-based poetry competition called '*Kavyanjali*'.
- c) a glass bottle competition titled '*Vartika*' the theme of which was '*Green Mind, Green Life*'. This event enabled students use discarded glass bottles effectively and upcycle them.
- d) an event titled, '*Pushp chakra*' – a tiara-making competition in which students had to make tiaras out of fresh flowers and leaves. The event was designed as a sensitization programme in appreciating floral diversity.



Hari bhari thali

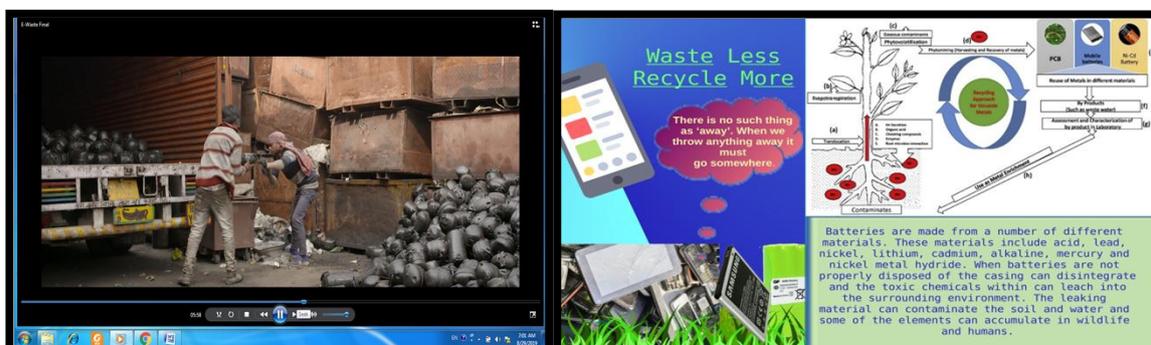
Upcycled bottles



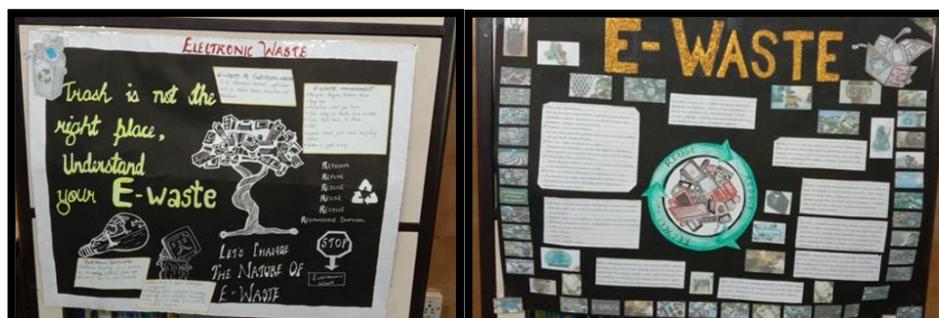
Pushp-chakra

11) Department of Computer Science organized:

- an audio-video editing and compilation event for students of SYBSc on the theme, 'Effects of e-waste and its treatment'.
- e-poster designing event for the students of TYBSc on the theme. 'Effect of battery on environment'.
- an awareness programme on 'Effects of e-waste and its treatment' by projecting video to students.
- a poster-making competition on the theme, 'e-waste treatment' for students of FYBSc. The same were displayed for awareness.



Audio-video editing and e-poster making on environmental issues



Poster-making for awareness

12) Department of Geology organized:

- a poster-making competition called 'GeoPost'.
- a green treasure hunt titled, 'GeoHunt'. As one of their tasks in this event, the students had to create awareness about environment conservation and protection by making a placard and explaining it to three other students and then uploading it on their Instagram handle.
- an inter-departmental debate between students of Chemistry and Geology on the topic 'Geology v/s Chemistry: Which is Greener?'
- collage-making event wherein the noticeboard in the Department of Geology Department highlighted environmental issues aimed at spreading awareness and creating self-reflection on individual personal habits.

13) Department of Biotechnology organized:

- a 'Mobigraphy competition' on the theme, 'Nature'.

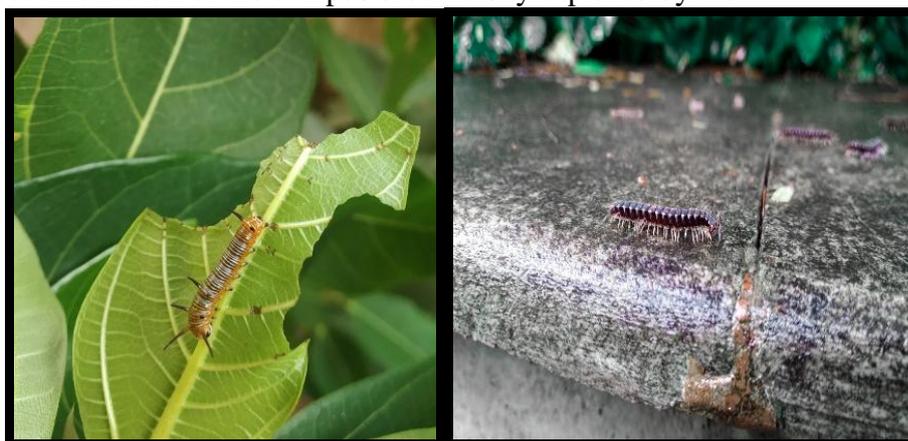
- b) a ‘Green clips’ competition on the theme, ‘Biotechnology and Environment’ or ‘Biotechnology and sustainable development’ in which students were asked to make a short video on environment and sustainable development.
- c) a ‘paperless postcard’ competition on the theme, ‘Ten years challenge’ in which students made a piece of art/craft on a postcard-sized material (anything besides paper) depicting the Earth at present and ten years hence.
- d) a poetry competition on the theme, ‘Biodiversity and Environment’.



Participants of the poetry competition on biodiversity and environment

14) Departments of Zoology and Botany organized:

- a) two photography competitions entitled ‘Dhempe College Wildlife Photo Contest’ and ‘Plants Photo Contest’ under the aegis of the Green Audit Committee, Nature Club and Eco-Club, a National Green Corps program. 25 students participated in these contests which took place from November 2019 to April 2020. Students were required to click pictures of wildlife and plants that are found on the campus. Following is a visual documentation of the campus biodiversity captured by them:



First Place: Pratik Bondnekar

Second Place: Rohit Nikam



First Place: Rohit Nikam **Second Place:** Ruxada Kandolkar

▪ **ACTIVITIES UNDERTAKEN BY THE GREEN AUDIT COMMITTEE**

- 1) Committee member Dr. Minal Desai Shirodkar and three Green Ambassadors attended the State-level Workshop on ‘Green Audit for college campuses’ and ‘Innovative Idea competition on Green initiatives for Sustainable development’ organized by DM’s College of Arts, Commerce and Science, Assagao on 29/08/2019 and 30/08/2019. Green Ambassadors presented their creative ideas on the themes given and Mr. Soham Naik secured second place in the event.
- 2) Committee member Dr. Minal Desai Shirodkar attended one-day Capacity Building Workshop on implementation of National Green Corps programme which mandates institutions to establish an Ecoclub. The workshop was organized by Goa State Council for Science and Technology and Ministry of Environment, Forest and Climate Change, New Delhi. The participants were briefed about the importance of the Ecoclub in education system.
- 3) Committee members Dr. Swati Pawar and Dr. Miskil Naik gave a talk on ‘Know your Carbon Footprint’ at a National-level Webinar in Interstate Cluster of Colleges Webinar Series on 30/05/2020.
- 4) Dr. Swati Pawar and Dr. Miskil Naik gave online lecture on "Green Audit and Carbon Footprint" on 22nd May, 2020 at 11 a.m. This was organized by V. G. Degree College & P.G. Centre for Women, Kalaburagi, Karnataka.

Dr. Swati Pawar
(Convener)

Green Audit, Green Campus and
Solar Energy Tapping Committee