



Annual Report

2015 - 2016

CEE

Centre for Environment Education

Nehru Foundation for Development, Ahmedabad

Supported by the Ministry of Environment, Forest and Climate Change
Government of India

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From the Director's Desk

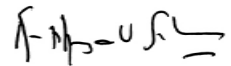
The year 2015-16 was a very significant year for Global decisions regarding the environment. In September 2015 the Sustainable Development Goals were agreed upon at the UN. The Climate Change agreement was reached in November 2015 at Paris. Responding to the challenge of implementing the SDGs and Intended Nationally Determined Contributions (INDC), CEE organised an international conference on ESD from January 11-13, 2016. In cooperation with MoEF&CC, Government of India, UNESCO and UNEP, it highlighted the role of education in achieving the Sustainable Development Goals.

CEE as a Centre of Excellence in Environmental Education (EE) implements over 100 projects at any given point of time on various EE and Education for Sustainable Development (ESD) related issues. With this, the role of education in its broadest sense, including training and capacity building, communication and creating public awareness, becomes a key strategy for achieving the SDGs. The January conference developed education strategies for each of the SDGs.

Over the last 32 years, CEE has implemented projects in partnerships at national and international level. CEE's partnership at grass root level has witnessed remarkable achievements in various initiatives, be it school education, higher education, rural development initiatives, climate change initiatives, biodiversity, water and sanitation and many more. CEE designed and developed the flagship mobile exhibition; Science Express Climate Action Special mounted on a train travelled to 62 destinations could spread climate change education and awareness among 24 lakh visitors in the country. Parampara - India's Culture of Climate Friendly Sustainable Practices brought together several Indian traditions that represent sustainable practices. The book was launched by the Hon'ble Prime Minister of India Shri Narendra Modi at twenty first session of the Conference of Parties (COP 21) to the UNFCCC in Paris, France, 30 November to 11 December 2015. The Parampara catalogue is a collection of a range of climate friendly traditions and practices from across the country which promotes more sustainable life styles, sustainable production and consumption.

CEE implemented programmes on Water Sanitation and Hygiene (WASH) in more than 700 schools in more than 7 states in India to complement the Swachh Bharat Mission (SBM). Through these initiatives CEE aimed to develop an Operation and Maintenance mechanism along with monitoring of WASH infrastructure and practices among children by involving different stakeholders in it. CEE's model WASH initiative Daily Handwashing for an Ailment free Life (DHaAL), which was implemented in Assam was replicated in many other states like Bihar, Rajasthan, Madhya Pradesh, Karnataka etc. CEE's initiatives are also highlighted in the Swachh Bharat Swachh Vidyalaya hand book prepared by the Ministry of Human Resource Development (MHRD).

CEE's primary objective of strengthening environmental education and awareness was also through its initiatives taken for National Green Corps (NGC), Paryavaran Mitra, Earthian, Mari Shaala, Swapnil Shala, Gyan Setu, CEE ka Bioscope and many other initiatives taken up nationally or at regional and state level. These initiatives have remarkably helped in achieving the SDG goal 4.7 which envisaged By 2030 ensure all learners acquire skill needed to promote sustainable development, including among others through education for sustainable development and sustainable life styles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development.



Kartikeya V. Sarabhai
Director

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Education for Children:

Under NGC, various activities were carried out in different states where CEE functions as the nodal agencies for the same. All NGC activities are closely monitored using various mediums and strategies. Meetings are also held for smooth coordination of the State Nodal Agencies (SNAs). CEE organised a series of environment related events with NGC schools in Uttar Pradesh during the year. CEE, in association with the Directorate of Environment, Government of UP, and the Regional Science Centre (RSC), Lucknow, observed Earth Day on April 22, 2015. CEE North conducted the Green Wave campaign in various districts of Uttar Pradesh on the occasion of the International Day for Biodiversity - May 22, 2015, with the support of NGC Master Trainers. On the occasion of World Environment Day, CEE North organised an event for students and other visitors in association with the Regional Science City. CEE North organised six nature camps for the eco-club schools of Bareilly, Bahraich, Balrampur and Shravasti districts. CEE North, in association with the Uttar Pradesh Forest Corporation (UPFC), the State Ecotourism Nodal agency and National Nature Camping Programme of MoEF&CC, organised a three-day and two-night nature camp at the Katarniaghat and Suhelwa Wildlife Sanctuary. NGC schools of Agra and Etawah participated in the UP Bird Festival, where CEE team facilitated educational activities, games and competitions. NGC Master Trainers were engaged in the save sparrow campaign at the district level. More than 6000 schools actively participated in the campaign. CEE North organised training workshops for NGC school teachers at various

locations covering five districts of Kanpur, Allahabad, Varanasi, Etawah and Lucknow. These workshops were supported under the Earthian-Paryavaran Mitra programme. NGC schools in various locations under Ganges River Dolphin initiative celebrated Wildlife Week, during which Dolphin Day was observed on October 5. School level awareness activities were organised at Supaul, Begusarai, Bhagalpur, West Champaran, Gopalganj, Patna, East Champaran and Muzaffarpur in Bihar. World Wetlands Day and World Forestry Day was celebrated in two and three schools of Bettiah, respectively. Three teachers training programmes were organised at Patna, Bettiah and Muzaffarpur under the Earthian-Paryavaran Mitra programme. Paryavaran Mitra Teachers Handbook was disseminated among NGC schools along with the Earthian booklet in Hindi on water and sustainability along with Biodiversity campaign posters. CEEB organised a meeting of 25 District Coordinators on December 15, 2015. As a resource agency, CEE Chattisgarh facilitated teachers training in various districts between October 2015 and January 2016. The Forest Department of Durg Circle celebrated Van Mahotsav through Hariyar Chhattisgarh Plantation Campaign. During the visit of the SECAS to Rajasthan, environmental games and face painting activities along with painting competitions took place. At the Bal Mela organised by CEE, students took part in various competitions, an exhibition, environmental games and arts and crafts activities. A campaign titled Ek Ped ki Zindagi was also carried out during this period. Teacher trainings were conducted in 31 districts during 2015. A Hindi booklet on Sustainability and Water, a brochure on Earthian and Paryavaran Mitra 2015, and a

brochure on Paryavaran Mitra Puraskar 2015 were developed and disseminated to schools during the year. In Assam, a series of five camps were held at Prabhat Mela Camp Site. In January 2016, a felicitation event for Paryavaran Mitra Puraskar 2015 was organised at CEE, Ahmadabad. On the occasion of Earth Day 2015, CEE designed a social media campaign in partnership with Earth Day Network (EDN) to encourage school students to spearhead the environmental awareness activities. This year, in the Earthian initiative of Wipro and Paryavaran Mitra initiative of CEE, biodiversity was added as an additional theme to the programme. CEE team travelled with the Prakriti bus and share details of the Earthian-Paryavaran Mitra programme with more schools of other districts. CEE North organised a series of five teacher training workshops across Uttar Pradesh in July and August, 2015, as part of 'Earthian' and Paryavaran Mitra Programme 2015 on the themes of 'Water and Sustainability' and 'Biodiversity and Sustainability'. Paryavaran Mitra Water-Earthian aligned with the Western Ghats Special Eco-club (WGECS) themes at various levels, the focus on Water Earthian was for schools to look at the inter-linkages between water and other themes in the local context. Based on Phase I experience, CEE is implementing Phase II of the Ganges river dolphin programme. A one day regional review meet of NGO partners was organised by CEE North. During 2015-16, five teachers training workshops were organised covering Gonda and Kanpur in UP, and Patna, Bagaha and Gopalganj in Bihar. The cluster level awareness on Dolphin programmes were held at 16 dolphin locations in UP and Bihar. As part of the programme, one day dolphin

teachers refresher cum review meet was organised, with the objective of reviewing the progress of the programme and planning project activities for the next phase. As part of the Dolphin project, two Dolphin outreach events were conducted in non-dolphin locations with the collaboration of Regional Science City, Aliganj, Lucknow. The first outreach event was held in Lucknow in April, 2015 and the second outreach event was held in New Delhi in August, 2015 at the National Bal Bhawan. On the occasion of Dolphin Day, CEE, with the support of National Mission for Clean Ganga (NMCG), organised events in 10 locations. WWF and Forest Department invited CEE and its dolphin partner NGOs to participate in the process. CEE team of three members and six NGO partners of UP were involved in the three day dolphin census study, which was flagged off on October 5, 2015. As part of the dolphin initiative, CEE team developed awareness and classroom display material for schools. CEE North has implementing CFP in Lucknow district of Uttar Pradesh. Given the overwhelming response in the six districts, Phase II of CFP has been introduced where seven more districts have been selected for the CFP initiative. CEE North has the responsibility now to implement the programme in Bareilly district in this phase, along with Lucknow district. In April 2015, CFP schools were invited to the national workshop organised by UP-PFMPAP with financial assistance by JICA. CEE North conducted the International Green Wave Campaign on May 22, 2015 - International Biodiversity Day, with CFP schools. CEE North developed a short video documentary to document the process adopted for CFP and to capture success stories. During July-September, the mobile exhibition bus Prakriti visited the

CFP schools of Lucknow district. In December 2015, CEE North organised an Environment Awareness Programme for CFP schools in different zones of Lucknow. A final overall report of the project was also developed by CEE team capturing the work undertaken in 100 schools of the district along with the outputs and outcomes of the project. CEE team conducted 20 day long nature tours to the Forest Research Centre, C. B. Ganj, Bareilly, during November and December 2015. In April 2015, the project team at CEE Bareilly observed Earth Day by organising an event at Indian Veterinary Research Institute (IVRI), Izatnagar, Bareilly. Under GCS, eight schools along the Gujarat coast connected with five schools along the Queensland coast in Australia. This connection is uniquely referred to as the Project 1600 (symbolising 1600 km of the Gujarat coastline). The project activities have been documented and shared in the International Conference on Education as a Driver for Sustainable Development Goals during January 11-13, 2016 at Ahmedabad. CEE Tamil Nadu has initiated this international IT enabled sustainability, global citizenship and marine conservation education programme for schools along the coastal districts of Tamil Nadu and Pondichery (nine schools from TN and one from Pondicherry), in collaboration with the Department of Education. ESD Food was an international collaborative learning initiated by the Asia Pacific Cultural Centre for UNESCO (ACCU) and supported by the Ministry of Education, Japan. Five schools from Kerala, India, and seven from Japan were part of this project. A workshop on understanding the concept of ESD and an overview of the project was held in India and Japan (India in July 2015, Japan in September 2015). The project was implemented during

the period September 2015 to January 2016. CEE joined hands with YMP to implement the pilot phase of the course in India, which was formally launched on October 14, 2012 during the ESD Conference organised by CEE as part of the Convention on Biological Diversity (CBD) ~ Conference of Parties 11 (COP 11) in Hyderabad, India. CEP envisages a series of six modules which are to be introduced in the project schools over a period of three years. In August 2015, a regional level CEP workshop was organised at Lucknow, with the objective of introducing Module 1 based on the environment and social course of class 6. CEE team also attended the City Montessori School (CMS) network's monthly environment coordinators meet. During October 2015 - February 2016, CEE North team visited the six CEP schools across UP and Bihar, with a view to assess the implementation, effectiveness, understanding and feasibility of the module, both for students and teachers. Various activities were conducted under the Swapnilshala project in 2015-16 such as Special training programme for children; Exposure visit for teachers; Workshop on teaching learning methodologies; visit to SECAS; Bal Mela; School newsletter by students. The Marishala project was initiated in 30 selected schools based on specific criteria that include shortage of teachers and low Gunostav grading. (Gunotsav is an accountability framework for quality of primary education which includes learning outcomes of children as well as co-scholastic activities, use of resources and community participation in government schools of Gujarat). Gyansetu project has now been successfully extended to 183 schools of five districts of Gujarat, and also covers classes 1 to 8 for all the major subjects. In Mundra, the

Gyansetu project is being implemented as part of the Corporate Social Responsibility (CSR) activities of Mundra International Container Terminal (MICT). Gyansetu Advance (portal) is a further value addition where school teachers and students can interact using the technology platform. Guruji is a concept for quality education implemented through teachers capacity building and use of an innovative teaching method to improve the outcome of Elementary Education through Gyansetu ~ a technology-aided application. It was decided to implement the project in 14 government schools and three private schools (Sanjivini, Mayurdhwaj and Sharda Vidyalay) of Choryasi taluk, Surat and is funded by Essar Foundation. There was student involvement through art and craft, quiz, Bharat Darshan ~ a Social Science fair, and career counselling workshop. Also teacher/principal involvement was seen through Green Teacher Diploma, special training on Social Science, International Conference at CEE, and teachers engagement through Gyansetu Application. Mobile Educational Exhibition Materials Development and Training Programme is a project supported by Lokvigyan Kendra (Community Science Centre) of Lokbharati, Sanosara, under their Darshak Lokganga project funded by Pidilite Industries Pvt. Ltd., in which CEE is developing theme based exhibition materials and activity kits based on the syllabus of classes 6-8. Indradhanush is into its fifth year at Vadinar, Gujarat, and children and teachers from 32 government and aided schools from 18 villages of Jamnagar and Devbhumi Dwarka districts participated. CEE was the knowledge partner for the project this year. In Bihar, CEE has partnered with UNICEF and Bihar Education Project Council (BEPC) to promote Child Friendly Schools and

Systems (CFSS) in 100 schools of Vaishali district. This initiative focuses on the demonstration of 'Swachh Vidyalaya -Swasth Vidyalaya' education. It is also envisaged that similar models will be developed in all the districts of Bihar with the help of BEPC using the inputs from UNICEF s and CEE s work in Vaishali. The programme was initiated in October and the activities were carried out till March 2016. CEE Andhra Pradesh (SP) implemented the Clean Hussain Sagar Campaign with the support of the Hyderabad Metropolitan Development Authority (HMDA) in 70 schools located in the HMDA jurisdiction. The Waste Management Group at CEE Kolkata is implementing the Urja Chetana programme in 30 schools, in and around Kolkata. The initiative is supported by the Calcutta Electric Supply Corporation (CESC) under their CSR programme. It also won the Global CSR Excellence and Leadership Awards 2016. CEE Karnataka initiated a programme titled Nature as a classroom with The Foundation School, Bangalore to introduce primary school students (classes 1 to 5) to the local biodiversity and demonstrate hands-on activities on nature. CEE Karnataka, in collaboration with the Forest Department of Kodagu, organised Nature Education Programme on the Sacred Groves of Kodagu . As part of this initiative, 10 booklets on sacred groves were developed with detailed inventory of flora and fauna. Four posters on the importance of sacred groves were also developed for school children and the public. CEE is the nodal agency for the Environment Service Scheme (ESS) of the Government of Maharashtra Environment Department. The scheme is currently being implemented in about 70 schools in 12 districts of Maharashtra. CEE Himalaya was invited by

Himachal Pradesh State Council for Science, Technology and Environment to participate in the Children's Science Congress organised at Rampur during December 14-17, 2015. At the event, CEE Himalaya put up an exhibition on SECAS. Green-Me is a thematic environment education programme implemented as a CSR programme in association with Toyota Kirloskar Motor Private Limited. The programme was launched in November 2015 and by March, its implementation in schools was assessed and the best schools and teachers awarded.

Higher Education:

During the current year, two issues ~ 9.1 and 9.2 - were brought out as per schedule. Issue 9.1 carried a special section edited by UNESCO on the UNDESD titled, End of the Decade: Reflections and the Way Forward. It was focused on ESD and Climate Change Education (CCE). Besides articles on this topic, the section also included status reports on policy for the same from three countries ~ Brazil, China and Republic of Korea. CEE North, as the nodal point for RCE Lucknow, has initiated several ESD activities with its RCE partners in the region. In November 2015, a round table meeting of stakeholders was organised by CEE North in association with the United States (US) Embassy, New Delhi, at the Regional Science City, Aliganj, Lucknow. The meeting aimed to bring together NGOs and individuals concerned with air quality and climate change. CEE offered the Compulsory Environmental Studies course in the Monsoon and Winter semesters of the Institute of Engineering and Technology, Ahmedabad University. A course titled Social Research for Participatory Design was developed and conducted for the PVP College

of Architecture. The impetus for development of such a course came from the mutual interest of the PVP College of Architecture and CEE to strengthen participatory design in architecture, urban design and planning, especially in the context of the Streets for People activities undertaken jointly over the last few years.

Education for Youth:

SAYEN Secretariat supported the youth events organised at the IIT Kharagpur, IIT Mumbai and BITS Goa and participated as judge in the environment section at IIT Kharagpur. SAYEN felicitated the winners of the Handprint Challenge 2014, in an award ceremony in Ahmedabad, held as a two day event at CEE on February 24-25, 2015. Youth from nine countries from Asia and the Pacific region had taken part in the Handprint Challenge 2014, an initiative engaging university students in sustainability action on and outside their campus. The award ceremony included a two day workshop to share achievements, challenges and learnings by youth with others participating in the campaign. The South Asia Youth Environment Conclave was organised by the American Centre, Earth Day Network ~ India, CEE and SAYEN at the American Centre, New Delhi on September 29-30, 2015, with the aim to engage, empower and encourage youth with an interest in and working on spreading awareness through action about sustainability issues like climate change in their college and community. The Conclave saw participation from over 70 youth from Bangladesh, Bhutan, India, Nepal and Sri Lanka. A workshop focusing on the role of education to enable youth to significantly contribute in achieving SDGs, was organised by SAYEN with support from the Rajiv Gandhi National Institute for Youth Development and

Quest Alliance. Over a 100 youth participated in this workshop where they shared and learnt from each other. An outcome document was also developed for the same. CEE and SAYEN, supported by RGNIYD, hosted 300 youth in Yuva Samvaad ~ Regional Consultations on Sustainable Development and Youth Empowerment for Marginalised Youth. The consultations were held in a series starting at Lucknow (Uttar Pradesh) on March 11, Ahmedabad (Gujarat) March 29 and lastly at Bhagalpur (Bihar) on March 30.

Experiencing Nature:

Reptile Awareness Programmes was conducted for park visitors on every Sunday. It was carried out for 32 schools on other days, in which about 1,798 students and teachers participated. A seven day snake survey and awareness programme was conducted for Sonadih Cement Plant of Lafarge India Limited, located in Chhattisgarh. Apart from this, half day snake awareness programmes were conducted for Central Investigation and Security Services and Krishna Kautex Pvt. Ltd., Viramgam, during this period. On July 4-5, 2015, Sundarvan and Gujarat Council on Science & Technology (GUJCOST) welcomed the monsoons by organising a two day Odonate Workshop. An Indian Amphibian Photo Exhibition was also held on the above dates for the park visitors. As an outcome of the workshop, the team at Sundarvan distributed a booklet on introduction to dragonflies and damselflies for beginners. On World Environment Day, an evening bat awareness programme, Discover Bats, was organised to shed light on the only mammal of the world that can fly ~ the bats. On July 14, 2015, the 20th birthday of two Indian Rock Pythons that were born at Sundarvan in 1995,

was celebrated. Activities included A Zoo Reptile Fundraiser event, snake awareness programme and Snake Awareness Poster release. As part of the Wildlife Week celebrations, Sundarvan, in collaboration with India Post, carried out different activities to promote wildlife conservation. On the last three days of National Wildlife Week (October 6-8), a Philately Exhibition showcasing stamps with wildlife themes from all over the world was held within the park. Members of the Philately Club of Ahmedabad generously lent their priceless collection for this purpose. Two bird-watching trips to the Pariej wetland, a visit to the Black Buck National Park, Velavadar, three winter night programmes at Sundarvan and Christmas celebrations at the zoo were some of the activities conducted during November 2015 to February 2016. Sundarvan received the Rufford Small Grant from Rufford Foundation, UK, to carry out snake awareness programmes for government schools in Ahmedabad. An activity manual on reptiles has also been developed for teachers under this project. As part of networking and partnership, Nishant Construction has completed the renovation work of the crocodile enclosure at Sundarvan during this period. The Central Zoo Authority has approved our proposal to receive two African Slender-snouted crocodiles from Madras Crocodile Bank Trust (MCBT), Chennai. Under Rural Programmes Group, During the year a large number of adventure camps, nature camps and nature watch programmes were organised where nature lovers from different professional and academic backgrounds as well as age groups participated. Camps were conducted at Mt. Abu, Balaram, Purna and Hingolghadh sanctuaries, besides marine camps at Beyt Dwaraka (21), desert camps at the Little Rann

of Kachchh (LRK), and forest camps at Bakore (22). On the eve of World Environment Day at CEE Ahmedabad, an overnight camp for children was organised at the CEE campus itself. Under the NNCP, a Camping Guidebook has been prepared by CEE on behalf of the Ministry. This manual provides succinct information and guidelines for both camp organisers as well as campers. As part of its nodal services to the Ministry, CEE had earlier organised a national consultative meeting of camping professionals, and also prepared detailed guidelines for the NNCP grants scheme of the Ministry. As part of the National Nature Camping Programme of the Ministry of Environment, Forests and Climate Change, Government of India, five nature camps were organised in Bondla from December 12 to 23, 2015. Various activities including nature trails and zoo visits were conducted as part of the camps. CEE has been working closely with the Haryana Forest Development Corporation (HFDC) to develop education programmes for the state. A Memorandum of Understanding was executed between CEE and HFDC in January 2016, under which both organisations have undertaken to jointly develop and execute programmes in nature education, especially nature camps. By March 2016, three camps had been organised under this partnership, one at Thapli in Morni Hills and two at the Rajiv Gandhi Nature Park, Masani, Rewari. CEE North organised six nature camps during November and December 2015 for eco-club schools of Bareilly, Bahraich, Balrampur and Shrawasti districts. A series of five camps was conducted in November and December under the National Nature Camping Programme (NNCP) supported by the Ministry of Environment, Forest and Climate Change. The NGC schools from Balrampur, Bahraich and

Shrawasti districts took part in these camps at Suhelwa Wildlife Sanctuary. A stay at a working farm known as Tapovan encouraged the children to explore more about agricultural biodiversity.

Communicating Environment through Media:

Education for Change: ENVIS Newsletter on Environmental Education has come out with three issues of the electronic newsletter to disseminate information to network members. CMU continued its function as a Video Resource Centre during the year under reporting. Various environment and sustainable development related films were borrowed both by programme groups within CEE and by external institutions, for use in training and public screenings. CEE and The Third Pole (TTP) were awarded a mandate by the Climate Change Division (CCD) of Swiss Agency for Development and Cooperation under Indian Himalayas Climate Adaptation Programme (IHCAP), to sensitise journalists on climate change trends in the Himalayan region, as well as orient them about effective reporting on climate change issues, case studies and sustainable development for the mountain communities. Under the mandate, four capacity building workshops for media on climate change and development in the Indian Himalayan Region (IHR) were organised jointly by CEE and TTP under IHCAP, with support from Department of Science and Technology (DST) and Ministry of Environment, Forest and Climate Change (MoEF&CC), Government of India. The workshops were conducted in the states of Himachal Pradesh, Sikkim, Jammu & Kashmir and Assam, during the period between March

15, 2014 and December 14, 2015. It was decided to conduct a workshop in Sikkim also as the state is strategically important for India, lying astride the shortest route from India to Tibet. Achievements of Media Capacity Building Workshops are 74 media personnel were trained through four media workshops, which was more than the proposed target. Modules on Reporting Climate Change and Sustainable Development and Trainer's Guide have been developed to facilitate more such workshops in the future by different agencies. Eight workshop reports have been prepared containing in-depth details of each workshop, with two reports for each workshop - Proceedings and Journalist. While the report of the proceedings has documented the workshops as they were conducted, the journalist reports provide the gist of the deliberations made and discussions held. The amount of media coverage given to climate change issues has increased with more than 40 press and electronic reportings/case studies appearing in the media. CEE - Himalaya Initiative conducted a one day workshop for media in the context of SECAS visiting the Indian Himalayan Region, with support from Swiss Agency for Development and Cooperation (SDC), under its Indian Himalayan Climate Action Programme (IHCAP). Hosted by the Department of Environmental Sciences of the University of Jammu, and the Press Club of Jammu, the workshops were designed for equipping educators on climate change and on orienting media for climate change reporting. Organised and conducted in collaboration with the CEE and Training, Jammu & Kashmir, and the Press Club of Jammu, the workshop was held on December 15, 2015, in Jammu. A large group of media persons representing broadcast

media (television and radio), print and online news attended the workshop.

EE through Interpretation:

A small interpretation facility was set up at Yuksom in West Sikkim, which is the gateway to the Khangchendzonga National Park (NP). The centre was set up in May 2015. Forest, Environment and Wildlife Management Department of the Government of Sikkim supported the project. CEE designed, fabricated and installed nine photo-text panels covering five themes. A small interpretation centre consisting of photo-text panels was set up in October 2015 in the waiting hall at the entrance to the reserve Tadoba-Andhari Tiger Reserve Interpretation Centre, Moharli, Maharashtra. A unique, first of its kind museum-cum-interpretation centre on mountaineering was set up in November 2015 at the Swami Vivekananda Institute of Mountaineering (SVIM) at Mount Abu, Rajasthan. Several publications like a handbook based on the interpretation centre, a brochure of the institute and a prospectus were also designed and printed. An interpretation centre on the shores of the Chilika Lagoon at Satapada, Odisha was set up by CEE in 2002. In 2015 the facility was upgraded by CEE. CEE was commissioned by the Madhya Pradesh Forest Department to design and develop a Nature Interpretation Programme for the Bison lodge and their old Public Works Department (PWD) guest House located at Pachmarhi. CEE has also developed car stickers as mementos for visitors while two publications, which include a coffee table book and a handbook on Satpura, are being developed. CEE Hyderabad office has received approval from the government for the concept, design, development and installation of

panels and 3D models at Bhagyanagar Nandanavam Interpretation Centre. The work is currently in progress. CEE Karnataka, in collaboration with the Karnataka Forest Department, developed an Interpretation Centre on Marine Biodiversity at Tannirbhavi near Mangalore with the aim to create awareness on marine ecosystem and biodiversity and the need for their conservation. CEE is providing technical support to three interpretation centres in Tamil Nadu initiated by the Forest Department, Government of Tamil Nadu with financial support from Tamil Nadu Biodiversity Conservation and Greening Project (TBGP). The interpretation centres are being initiated at Amritha Zoological Park, Vellore; Zero Point, Pechiparai; and Kanya Kumari with the aim of transforming a recreational visit into an educational opportunity.

Knowledge Management for Sustainability:

The Centre for Environment Education (CEE), with the support and partnership of the National Centre for Sustainable Coastal Management (NCSCM), is facilitating field studies in the coastal areas of Karwar (Karnataka); Gulf of Kachchh and Gulf of Khambhat (Gujarat); and East and West Godavari, Coringa (Andhra Pradesh). CEE has completed the survey in all the locations and supported the NCSCM for inputs in the decision support framework too. CEE Andhra Pradesh State Office has implemented the project for the assessment of the extent of community dependence on the coastal ecologically sensitive areas (ESAs) in Coringa, Krishna and Godavari, Andhra Pradesh with the support of NCSCM.

Industry Initiatives:

The Earth Care Awards, started in year 2007, entered into its sixth year. The awards recognise excellence in climate change action and covers both mitigation and adaptation sectors. As part of the process, CEE evaluated around 130 applications from categories like industry, community and innovations. The project on development of products from wastes is part of the circular economy initiative of CEE. As part of this, CEE presented its work and conducted a roundtable on the topic with subject experts from the Gujarat Pollution Control Board and the University of Guelph, Canada. As part of the activity, CEE created a platform with the regulatory authority, individual industries and Industrial association for utilisation of industrial waste. Clean Development Mechanism (CDM) on Afforestation/Reforestation aimed to conceptualise, development of projects on CDM, as part of which, CEE submitted Project Design Documents (PDDs) for the two CDM projects. Community Based restoration of degraded mangrove habitat in Talaja Takuka, Bhavnagar District. Small Scale Cooperative Afforestation CDM Project Activity on Private Lands in Panchmahal District, Gujarat. The projects have been prepared in accordance with the CDM guidelines and methodology. CEE, as part of a study sponsored by OLG, undertook an assessment of product carbon footprint. The Science Express has been redesigned on the theme of Climate Change. From October 15, 2015, it is running as the mass awareness campaign Science Express ~ Climate Action Special (SECAS)' across India. It is a unique collaborative initiative of the Department of Science & Technology, the Ministry of Environment, Forest & Climate

Change (MoEF&CC), and the Ministry of Railways, Government of India. Of the 16 coaches of SECAS, the exhibition in eight coaches developed by CEE on behalf of MoEF&CC, Government of India, is exclusively devoted to information, case studies and material related to various aspects of Climate Change, the underlying science, impacts, adaptation activities, mitigation solutions and policy approaches. SECAS travels in its fifth phase across the country for about seven months, halting at 64 locations in 20 States, covering about 19,800 kms. Various platform activities and distribution of IEC material were facilitated along with a painting competition which was used as display panels on windows of SECAS at West Bengal. The Climate Change Division (CCD) of Swiss Agency for Development and Cooperation (SDC), under its Indian Himalayas Climate Adaptation Programme (IHCAP), collaborated with CEE Himalaya Initiative to support the SECAS train in the Indian Himalayan Region (IHR). CEE is developing a paper on The Leapfrogging Opportunity - Role of Education in Sustainable Development and Climate Change Mitigation for the United Nations Educational, Scientific and Cultural Organization (UNESCO). Training Seminar for Journalists on Renewable Energy and Energy Efficiency, funded by the Heinrich Boell Foundation, seeks to facilitate critical documentation of renewable energy and energy efficiency initiatives by journalists in India. The seminar held on August 11-12, 2015, provided information to journalists about the state of the art, potential, policies and barriers of renewable energy and energy efficiency, and the resource scarcity of fossil fuels in India. CEE arranged a one day field trip to the solar canal in Baroda and a large scale biogas plant

in Anand, Gujarat. In India, CEE and the Indian Youth Climate Network (IYCN) organised COY 11 at the CEE campus in Ahmedabad in which 150 youth participated. The inputs by participants were taken into consideration in the manifesto that was presented to the world leaders by youth representatives at COP 21. The Workshop on Goal 13 'Combating Climate Change and its Impacts', held in cooperation with the United Nations Framework Convention on Climate Change (UNFCCC) in six sessions during the international conference 'Education as a Driver for Sustainable Development Goals' on January 11-13, 2016 in Ahmedabad. CEE is preparing a compilation of India's Climate Action on mitigation, adaptation as well as skill building and sustainable lifestyles in a publication called Climate Action: India's Initiatives on Mitigation and Adaptation Database, for MoEF&CC. Awareness, training and capacity building programmes in the field of Industrial Pollution Prevention and Sustainable Industrial Development in partnership with National Environmental Engineering Research Institute, Nagpur (NEERI) and Gujarat Pollution Control Board (GPCB) for all concerned stakeholders. A workshop on Industrial Waste Water Treatment was organised on August 5, 2015. The Aerospectrum-2015 was organised successfully on December 9, 2015, with more than 150 participants attending the programme. An awareness and training programme on cleaner production and H.W.Rules-2008 was held for environment, chemical, rubber and plastic engineering divisions of L. D. College of Engineering (LDCE) Ahmedabad. Wetskills - A bilateral skill development programme for 15 Dutch and Indian students from various disciplines

was conducted from November 27 to December 11, 2015. A training programme on co-processing of hazardous waste in the cement sector was conducted for 50 students of LDCE Ahmedabad on February 18, 2016. An MoU was signed with M/S Green Environmental Services Cooperative Limited (GESCSL) - a common effluent treatment plant (CETP) situated in Vatwa, Ahmedabad, for the establishment of a waste utilisation centre (WUC) at Gujarat Industrial Development Corporation (GIDC) Vatwa, to produce building materials from hazardous waste, viz. sludge from the CETP. IPP prepared a preliminary report and the detailed Project Report for the WUC project after a literature survey, discussions with technical experts and site visits to industrial establishment. IPP examined the facts related to the implementation of Zero Liquid Discharge (ZLD) system in the textile industries and clusters in response to the draft notification issued by the Ministry of Environment, Forest and Climate Change (MoEF&CC), Government of India. A report was prepared based on discussions with the members of the South Gujarat Textile Processors Association (SGTPA) held on March 14, 2016. Madhya Pradesh Clean Development Mechanism Agency (CDMA) commissioned CEE to develop knowledge products and undertake a public awareness campaign to help enhance understanding about climate change and actions for mitigation. As a part of the public awareness campaign CEE conducted sessions aimed at various target groups: Exhibition of Sab Sath Chalein - Climate Caravan campaign for school students visiting SECAS at Shivpuri railway station; an NGC teachers workshop in Bhopal; a meeting with a group of women from economically weaker sections in Bhopal

in partnership with Mahila Housing Trust; a workshop with MP CDMA on access to energy at Maulana Azad National Institute of Technology, Bhopal; a session on sustainable urban transport and street design with the School of Planning and Architecture, Bhopal.

Sustainable Rural Development:

Hingolghadh Eco-development Programme, HEdPro being implemented by CEE-Jasdan Field Office initiated 95 new orchards with support from CEE, who also developed awareness and education programmes on this. CEE also helped farmers get quality saplings and provided technical guidance. Promotion of organic farming has remained one of the thrust areas of CEE- Jasdan. As a milestone achievement in this process, during the year, 105 farmers have applied for organic certification to the Government authorised certifying agency GOPCA (Gujarat Organic Produce Certification Agency). As is being done every year, CEE supported the self help groups (SHGs) and Paryavaran Vikas Mandals (PVMs) in direct selling of their value added and organic produce. Besides the Traditional Food Fair organised at Ahmedabad by Indian Institute of Management ~ Ahmedabad (IIMA), the groups participated in 14 different fairs, making an earning of about Rs. 23 lakh. The SHGs have tied up with an Ahmedabad based agro-produce marketing company, by which the SHGs will supply the fruit and the company will process, pack and market the products in the national and global markets. During 2015-16, two post graduates were selected for the project as Gramshilpis. One of the Gramshilpis, Nilam Patel, has been awarded with Jagrit Jan Sanman by Jagrut Jan Trust, Ambavadi, Ahmedabad for his commitment to the tribal people of Banaskantha District. CEE Tamil

Nadu served as a State Environment Resource Agency (SERA) for Tamil Nadu Empowerment And Poverty Reduction Programme (TNEPRP), for the implementation of Environmental Management Framework (EMF) in three phases (Phase I: 2007 to 2009; Phase II: 2011- 2012; Phase III: 2013- 2015). Based on various outcomes, a Working Paper on Environmental Management for Sustainable Rural Livelihood - Tamil Nadu Empowerment and Poverty Reduction Project was submitted for the Kudumbashree* International Conference (KIC) 2016. The assessment of Extent of Community Dependence on the Coastal Ecologically Sensitive Areas (CESAs) in Gulf of Kutch & Gulf of Khambhat, Gujarat was given to CEE by the National Centre for Sustainable Coastal Management (NCSCM) established by the Ministry of Environment, Forest and Climate Change (MoEFCC), Government of India. It was part of a larger study being undertaken by NCSCM on ecologically sensitive areas (ESAs) all along the Indian coast. Further, CEE is also working towards preparing a manual and guideline for multi-stakeholder surveys in CVCA, based on the experiences from this survey. As part of the Pahal - Environmental Monitoring and Evaluation in Coastal Regulation Zone project's objective, a group of third year students from DA-IICT ~ Gandhinagar conducted a socio-economic-environmental survey of the area. Based on their findings, a report titled Understanding Environmental Sustainability Concerns from Youth Perspective was prepared. Based on these efforts, an interpretative report of the environmental compliance report submitted by APSEZ was prepared, titled Community Perspective on Environment Compliance ~

Interpretation Report. More than 400 people were drawn from different stakeholder groups.

Sustainable Urban Development:

CEE and CEPT University developed, Reimagining Main Streets , a 5 credit course offered over three weeks from June 2015. CEE with UNESCO and UNFCCC has conducted survey to identify case studies that demonstrates the role of education or education for sustainable development in climate change mitigation. CEE organized the workshop as a part of the International Conference on Education for SDGs held at CEE Ahmedabad from January 11-13. The UNESCO Chair activities were presented during this workshop. CEE had developed an urban space in the Manekbaug residential area as a green forest over 18 years as a part of a partnership with the AMC. The forest named as Lokvan by the CEE was formally handed over to the AMC in a function organized at the plot on June 5, 2015. CEE Kolkata is the RI of NIUA, coordinating the Capacity Building of Urban Local Body officials on Urban Climate Change Resilience ~ Eastern Regional Hub. CEE Kolkata in a joint effort with the National Institute of Urban Affairs (NIUA) and support from Rockefeller Foundation organized the residential training programme on Urban Climate Change Resilience from 27-29 April, 2015 at the Administrative Training Institute (ATI), Salt Lake City, Kolkata, for the cities from the eastern region of India. World Resource Institute (WRI) and Parisar, an organization based in Pune and CEE's partner for transportation related work, and CEE have developed a Transport Governance Initiative (TGI) toolkit to provide a framework for the evaluation of the governance process in urban

transport sectors in the cities of Kolkata, Durgapur and Siliguri. CEE Kolkata team also participated at the WRI India Sustainable Cities, 4th annual conference, Connect Karo 2016, from 5-7 April 2016, New Delhi and presented the WB cities assessments on Transport Governance.

Water and Sanitation:

SWACHA Shale is now being linked with the Mid-day Meal scheme of the Karnataka government and is being implemented in over 7000 government schools in the state. The programme is also acknowledged as a Flagship Project for its role in Contributing to Community Engagement in the field of Health and Nutrition by the United Nations University Institute for the Advanced Study of Sustainability (UNU-IAS). CEE, along with Akshaya Patra Foundation, is implementing a small initiative on WASH in 45 schools of Jaipur, Rajasthan. The key activities carried out in 2015-16 include block level principal workshop, and school visits. Information, Education and Communication (IEC) material were developed for the project in the form of a poster focusing on personal hygiene. The Lady Bamford Charitable Trust (the LBCT) and CEE have joined hands to implement Swachh Bharat Swachh Vidyalaya project in 30 schools of Maharashtra, Rajasthan and Haryana. The learning from the pilot phase will be converted into a Diploma in WASH for teachers and development professionals working on WASH in schools. CEE carried out an orientation programme for LBCT staff to build a conceptual understanding of WASH and the whole school approach. CEE Northeast supports SSA and UNICEF in developing 322 scalable model schools on proper hand washing practices and address operation and maintenance

(O&M) issues. District level interventions were undertaken for ensuring internalisation of the monitoring mechanism. CEE also undertook state level advocacy by linking the DHaAL project with the WASH Task Force and Working Group. During the course of the project, a group of well-trained fabricators have also been developed for the installation of WASH facilities. Nirmal Vidyalaya Puraskar aims to aid the Assam state government and SSA in selecting schools for the same. Sixteen schools that qualified for the NVP were selected based on the assessment process out of which 10 will be awarded by SSA in June 2016.

Waste Management:

CEE CHAMP covers 188 bedded Healthcare Establishments (HCEs) and 519 non-bedded HCEs of the Kalaburagi district. CHAMP has extended its services to all the HCEs in Sedam, Jewargi, Afzalpur, Chincholi, Aland and Chittapur talukas of the district. CEE conducted around 250 on-site orientation programmes for medical and paramedical personnel of the city and in the talukas during 2015-16. The Ministry of Drinking Water and Sanitation (MDWS), Government of India, granted a project to the Waste Management Group of CEE to prepare a source book on Solid & Liquid Waste Management in Rural Areas in India. The source book was released on April 21, 2015 by MDWS during a national workshop on Solid and Liquid Waste Management in Rural Areas. A stakeholders meeting was conducted in August 2015 at CEE Ahmedabad, with the participation of local artisans, the Gujarat Pollution Control Board (GPCB), Urban Community Development (UCD) of the Ahmedabad Municipal Corporation (AMC), Gujarat Maatikam Kalakari and Rural Technology Institute (RTI)

which organises training programmes in clay idol making for the artisans, National Institute of Design (NID) and CEE. The meeting was a part of the MoU signed between GPCB and CEE to find an alternative solution to the material being used to make Ganesha idols.

Biodiversity Conservation:

Under VIRASAT: Documenting and Conserving our Living Heritage, during the current year, People's Biodiversity Registers preparation was completed in these 25 villages, bringing the number of villages covered to 35. BMC preparation has now been initiated in 15 new villages of the same block in February 2016. CEE has signed a Memorandum of Understanding (MoU) with the CBD Secretariat to cooperate, collaborate with and facilitate the educational efforts of CBD in the promotion of Aichi Biodiversity Targets. Following this, CEE has developed and implemented a number of programmes. Green Wave is a global biodiversity campaign to educate children and youth about biodiversity through tree planting. CEE South promoted and popularised the campaign on May 22, 2015 marking the International Day for Biological Diversity (IDB). It was also executed in Uttar Pradesh and Bihar through CEE North. The website www.educationcbd.org was launched at the International Conference on Education as a Driver of SDGs held during January 11-12, 2016 at CEE, Ahmedabad. The planning meeting for the programme Hand Print for Change was conducted by CEE South with support from Novozymes South Asia Private Limited. The programme is being offered to schools having standards 7, 8 and 9. In this academic year (2016-2017), the programme will be offered to selected schools in the five southern states of India. CEE is implementing

Phase II of the Ganges River Dolphin programme with support from the National Mission for Clean Ganga, National Ganga River Basin Authority under the Ministry of Water Resources, and Ganga Rejuvenation and River Development. Souns Sanrakshan Samiti (Dolphin Conservation Committee) were constituted under the programme to bring community members together and raise their awareness on the conservation of Ganges river dolphin by adopting an approach of inclusive development of riverside communities. Seventeen Souns Sanrakshan Samitis - five in UP and 12 in Bihar - have been formed. CEE demonstrated 43 units of vermicompost pits at both the field locations in UP and Bihar. The CEE team has formed groups of women to promote kitchen/backyard gardening in the project village of Baundi. More than 70 households were provided with these plants in both the project locations in UP and Bihar. CEE field team, at both the Dolphin locations in Bahraich and Bettiah, organised community based awareness campaigns and rallies on the occasion of important environment related days like World River Day, World Environment Day, and International Day for Biological Diversity, Dolphin Day, Earth Day and Turtle Day. A booklet on organic farming and alternative livelihood option was developed for community members to guide them on adopting these practices. The Prakriti bus completing its first phase in July 2015, the next phase is being continued with support from the UP State Biodiversity Board and University of Lucknow. Till March 2016, the bus has visited 358 schools and has had over 1,88,527 visitors. During the year 2015-16, Prakriti bus has travelled to seven districts of Uttar Pradesh: Hardoi, Sitapur, Kanpur, Faizabad, Agra, Bahraich and Etawah. CEE

team developed a set of educational and promotional material at the start of the project. CEE is implementing a cross cutting component of Information Management Education and Communication for the Maharashtra Gene Bank (MGB) Project. The central achievements of this year included content development for four thematic Activity Handbooks and a need based, expanded package of 13 resource materials in the form of posters, booklets and pocket strips, keeping in mind the activities, methodologies and the target groups. CEE has set up a model of Paryavaran Shikshan Mitras (PSMs) with partner organisations. To protect biodiversity and enhance livelihood opportunities, Vedanta Ltd. commissioned CEE Goa State Office to undertake a project titled Assessment, Documentation and Development of Biodiversity Management Plan of four Mining Clusters in Goa. CEE has been appointed as the Resource Agency to support Biodiversity Management Committees (BMCs) in the preparation of People's Biodiversity Registers (PBRs) by Andhra Pradesh State Biodiversity Board (APBB). CEE has been allotted two Gram Panchayats: Narasingapadu and Gundlapalli Gram Panchayat of Nekarikallu Mandal of Guntur District, Andhra Pradesh.

CEE Telangana State Office has been appointed as Resource Agency with the same purpose by the Telangana State Biodiversity Board (TSBB). CEE has been allotted five Gram Panchayats of Medak District for the project.

Disaster Preparedness and Rehabilitation:

Under the Phase III of Rebuilding Faith & Response to Uttarkashi Flash Floods,

Cloudburst and Landslide, various programmes were run for school children, teachers, community members, Gram Pradhans and Panchayati Raj Institutions (PRIs) under the thrust areas of disaster risk reduction, climate change and sustainable mountain development. About 50 schools with a collective strength of 5000 students and 15 villages with a total population 1500 people are being addressed in the current phase. Along with DRR preparedness programme in schools, climate change and sustainable mountain development, the programme also focuses on hygiene and sanitation, waste management and Clean Nirmal Ganga. Schools are also provided with IEC material developed by CEE like year planner on hygiene and sanitation, Riskland kit, disaster awareness brochure, Paryavaran Mitra posters and CO2 Pick Right booklet. CEE Himalaya organised one day teacher training workshops consecutively on October 7, 8 and 9, 2015 in Bhatwari, Dunda and Chinyalisaur blocks. A school safety audit was also conducted during the workshops. Under its objective of community based disaster risk reduction, CEE Himalaya facilitated village communities in the preparation of village contingency plans. In addition to the disaster preparedness programmes in 50 schools of Uttarkashi district, CEE Himalaya also facilitated these schools in the preparation of school disaster management plans. CEE Himalaya partnered with Red Cross Society to conduct a district level mock drill on September 8, 2015, in Uttarkashi town about various first aid and life saving techniques. There were also practical demonstrations.

Facilitating Ngos and Community Initiatives:

Under GEF-UNDP SGP Operational Phase 05 (OP05) Programme, 23 projects have been completed as of March 2016 and another 37 will be completed by the end of 2016. Twenty six NGO partners have been bestowed with various national and international awards during the OP5 programme, ranging from the UN Equator Award, SEED Award, India NGO Award and Kelkar Award to the Best Entrepreneur Award and India Biodiversity Award. Seven NGO-managed projects were approved in Uttarakhand to support three types of landscapes, spanning from lower, middle to higher mountainous terrains, aiming directly at the expected outcomes listed in the Landscape Strategy that was specially developed before the COMDEKS Programme was taken up. All the projects meet with the standards established by COMDEKS and the final report will be presented to the Japanese Government and COMDEKS shortly. Under Medicinal Plant Gardens Programme, till now 218 schools have partnered with CEE and 165 gardens have been established. Eighteen orientation workshops have been organised and 2,530 participants have been oriented, to promote the project in their schools and inculcate the medicinal plants cultivation practices among the students. A partnership with Aditya Birla Group, Bhiwani under their CSR was done to introduce energy efficient technologies. Two workshops to train partner NGOs were held at Phaltan by Appropriate Rural Technology Institute (ARTI), Pune. Various awards were won by NGO partners such as Yashwant Rao Kelkar Youth Award 2015 for operationalising the programme related to the management of plastic solid

waste through rag-pickers in different cities of Madhya Pradesh and for launching the programme in all the towns of Madhya Pradesh to Sarthak, Bhopal and Basaman Mama Award 2015 by MP State government for the good work done in the areas of forest conservation and afforestation to Sujagriti Samaj Seva Sanstha.

Training, Capacity Building and Networking:

CEE through its Jasdan field office conducted 12 one day trainings for the local community in Reliance Foundation identified villages. These trainings were conducted in three clusters, namely, Modasa, Radhanpur and Jasdan. CEE Ka Bioscope programme came out with four different modules, i.e. Population and Development, Biodiversity Conservation, Sustainable Agriculture and Global Warming were dealt with during this phase. A CKB Programme Manual has been conceptualised and developed during this year. The Manual consists of a set of two books. Conceptualisation of ICT enabled modules has been initiated with the help of a GIS expert to enhance the integration of technology into the existing modules of CKB. A three day module, focused on Documentation and Report Writing, specifically designed for teachers and formal education practitioners was offered. With charity support from the Tata Consultancy Services, Gandhinagar, CEE has planned a year-long education intervention in five rural primary schools in and around Gandhinagar, Gujarat. CEE and Gujarat Council of Educational Research and Training Centre (GCERT) collaborated in conducting a teacher training that included the concepts of the subject, various methodologies for classroom

teaching, lesson plan preparation and activity based learning. It was a three day residential programme held in 12 different locations. Global Journey - India 2015 is an innovative project infusing ESD in the Vocational Education (VE) stream. The project is a partnership between CEE and of Global School, Swedish Council for Higher Education. As part of the programme, 22 participants including teachers, principals and municipal council members, from five vocational schools from five different municipalities in Sweden participated in the training exposure experience organised by the Rural Programmes Group at CEE Ahmedabad, in November-December 2015. Student Mobility Programme (SMP) 2016, was organised by Rural Programmes Group and CEE Australia, for a group of 10 students from Australia's Central Queensland University's Education programme for Pre-service teachers. The group also participated in the International Conference on Education as a Driver for Sustainable Development Goals, organised at CEE during January 11-13, 2016.

CEE and the UN:

CEE has worked on several initiatives with UNESCO, UN Habitat, UNICEF, UNEP and UNDP. CEE has developed two background papers for the Global Education Monitoring (GEM) Report in 2016. CEE prepared a publication for the CBD with support from the MoEF&CC, National Biodiversity Board and the UNESCO. The GAP preliminary Monitoring Report focusing on the activities conducted up to June 2016 has been prepared and shared with the key partners. CEE organised the International Conference on Education as a Driver for Sustainable

Development Goals during January 11-13, 2016, at CEE Ahmedabad, where over 750 participants from 22 countries shared their thoughts on the role of education in realising the SDGs. The conference was organised in partnership with UNESCO, UNEP and the Government of India. The participants included senior officials from MoEF&CC, international ESD experts, environmentalists, academicians, researchers and students.

Material Development and Publications:

Publication of Gram Nidhi Manual - Empowering Communities with Eco-entrepreneurship for Sustainable Livelihoods and Biodiversity: Manual for Community Facilitators took place. The reports and manuals on Capacity Building Workshops for Media on Climate Change and Development in the Indian Himalayan Region were also published. Films on International Mountain Day and Rebuilding Faith Programme were made. The manuscript for the Easter Springer publication Reorienting Educational Efforts for Sustainable Development: Experiences from South Asia, under its series Schooling for Sustainable Development has been published. CEE Karnataka, in association with the Kudremukh Wildlife Division, developed three medicinal plant booklets for the three MPCAs (Medicinal Plant Conservation Areas). There were continuous updates provided under the Ceenario newsletter, CEE India website along with social media. Booklets, brochures, and other promotional materials for different projects were also developed by the Corporate Communications department of CEE with support from design studio.

Facilitating Networking and Participation:

The IFC also has a month-long summer programme for children, culminating on June 5 which is the World Environment Day. The IFC also had the opportunity to work with a group of visually challenged students from Blind People s Association (BPA), one of the prominent organisations in Ahmedabad. Under Networking various meetings took place

such as participation in Maharashtra Vikalp Sangam, ESD ExpertNet Meeting, Asia Network of NGOs (ANNE) Meet, a roundtable discussion on Management of Disposable Plastic Waste: Towards a sustainable strategy, a road map for Climate Smart Municipal Solid Waste Management for KMC, alumni association at Vivida HSS, and workshop on promoting good quality EE Projects in Goa schools.

Education for Children

1.1 National Green Corps (NGC)

National Green Corps (NGC) is a programme launched by the Ministry of Environment, Forest and Climate change in 2001-2002, to create awareness among school children throughout the country on issues related to sustainable development with environment in focus. Working through a network of eco-clubs, NGC motivates students to be environmentally literate and responsible citizens.

CEE's activities under the NGC programme include:

- Coordination with the respective State Nodal Agency (SNA)
- Training of Master Trainers
- Monitoring of NGC schools
- Development of resource materials
- Conducting outreach activities

1.1.1 CEE North

Uttar Pradesh

Coordination of State Nodal Agency (SNA): In 2015-16, the NGC programme was implemented in Uttar Pradesh in close coordination with the State Nodal Agency (SNA) - Directorate of Environment (DoE), Government of Uttar Pradesh - and CEE North. Several rounds of meetings were organised with the SNA regarding documentation, follow up with schools and District Implementation and Monitoring Committees (DIMCs), and reporting. CEE North provided technical support and inputs for the implementation of the programme.

As the programme was being restarted after a gap of eight years, selection of schools was conducted afresh. Over 7259 schools in 72

districts were enrolled in the programme with the help of DIMCs. Online payment of the eco-club grant was made to 4455 schools.

Outreach Activities: CEE team had regular meetings with the nodal officer and other officials of the SNA to review the progress and plan the activities. The coverage of schools and the outcomes of the activities were reviewed jointly by the SNA and CEE. CEE North, as the resource agency, was invited by the DIMCs of various districts to provide inputs while planning the district level NGC activities. CEE team participated in five district level meetings and made a presentation giving an overview of the NGC programme and outlining the steps to be taken at the district level for effective implementation of the programme.

CEE organised a series of environment related events with NGC schools in the State during the year. Details of activities done during the year are as below.

CEE, in association with the Directorate of Environment, Government of UP, and the Regional Science Centre (RSC), Lucknow, observed Earth Day on April 22, 2015. The programme was organised for the eco-club schools of Lucknow and Bareilly, and included a quiz competition on the theme of the day, followed by a painting competition and an expert interaction session. The programme had about 380 participants including students and teachers from 35 NGC schools of both the districts.

In May, CEE North conducted the Green Wave campaign in various districts of Uttar Pradesh on the occasion of the International Day for Biodiversity - May 22, 2015, with the support of NGC Master Trainers. Over 20 NGC schools participated in the campaign.

In June, on the occasion of World Environment Day, CEE North organised an event for students and other visitors in association with the Regional Science City. Green games and creative corners for clay modelling, puppet making, snakes and ladder game and green tattoo making, were arranged by CEE team and volunteers, with students registering for the quiz and creative competitions in advance. The event concluded with a popular lecture by a scientist from the Central Drug Research Institute, who encouraged children to protect our environment as well as the heritage linked to it. Senior officers from SNA and the Regional Office of MoEFCC addressed children on the occasion. The event ended with prize distribution ceremony. More than 300 students, teachers and parents had participated in the programme.

In November and December, CEE North organised six nature camps for the eco-club schools of Bareilly, Bahraich, Balrampur and Shravasti districts. CEE North, in association with the Uttar Pradesh Forest Corporation (UPFC), the State Ecotourism Nodal agency and National Nature Camping Programme of MoEFCC, organised a three-day and two-night nature camp at the Katarniaghat and Suhelwa Wildlife Sanctuary. Over 250 students along



Campers group during trekking

with teachers from six schools attended these camps.

In December, NGC schools of Agra and Etawah participated in the UP Bird Festival, where CEE team facilitated educational activities, games and competitions. Over 600 children from seven schools participated in the event and gained awareness about the bird biodiversity of the state.

In February and March 2016, NGC Master Trainers were engaged in the save sparrow campaign at the district level. NGC schools were encouraged to install sparrow nest boxes and conduct a pledge campaign for saving the environment and sparrows. More than 6000 schools actively participated in the campaign.

Training: CEE North organised training workshops for NGC school teachers at various locations covering five districts, with support from a local NGO and active schools. Workshops were conducted at Kanpur, Allahabad, Varanasi, Etawah and Lucknow where over 250 teachers participated. These workshops were supported under the *Earthian-Paryavaran Mitra* programme and focused on the topics of water and sustainability, and biodiversity conservation.

As part of the Dolphin Conservation Education programme, two teachers training workshops were organised in Uttar Pradesh by CEE in partnership with the education and forest departments. Workshops were also held for rural schools of Gonda and Kanpur located near rivers Ganga and Ghaghara covering over 80 teachers.

Resource Material Development: A set of biodiversity and tree posters were developed with support from local agencies and

disseminated among NGC schools during the year, besides Earthian~*Paryavaran Mitra* material.

Monitoring: CEE team provided support to the SNA in monitoring the use of funds by the eco-club schools. A whatsapp group of master trainers and a facebook page was used to help eco-club schools and master trainers in reporting about their activities. The school database for the NGC schools in the state was documented by CEE. The overall activity reports of eco-clubs were also developed by CEE team in association with the SNA.

Bihar

In all, 8600 NGC schools from 38 districts of the state have become a part of NGC network in Bihar. Bihar State Pollution Control Board, Patna (BSPCB), which is the State Nodal Agency for NGC Programme, is providing its full support in this endeavor.

CEE North as a Resource Agency for NGC in the state is closely working with Master Trainers, teachers in-charge and schools in different districts.

Outreach Activities: In October 2015, NGC schools in various locations under Ganges River Dolphin initiative celebrated Wildlife Week, during which Dolphin Day was observed on October 5. School level awareness activities were organised at Supaul, Begusarai, Bhagalpur, West Champaran, Gopalganj, Patna, East Champaran and Muzaffarpur in Bihar. Activities included awareness rally, ghat cleaning campaign, exhibition, nukkhat natak, cycle rally, and Save Dolphin - Save Ganga pledge campaign. In some of the clusters, awareness activities and competitions including essay writing, painting and quiz were also conducted.

Schools were taken on exposure visits to the river bank, where fun and learn activities were conducted. More than 1300 children from Dolphin Clubs took part in this event. Many of them have creatively expressed their thoughts about dolphins in the form of models, drawings, songs, poems and others.

In February 2016, World Wetlands Day was celebrated in two schools of Bettiah where more than 100 students and teachers from Eco-clubs and Dolphin Clubs participated in the event. The object of organising this event was to spread awareness on conservation of wetlands, rivers, water bodies and ground water. At the start of the event students took out a rally chanting slogans on conservation of wetlands and rivers as well Ganges River Dolphin, and marched through important public places of Bettiah city. After that, students attended a session on World Wetlands Day that addressed the importance of wetlands such as the role they play in nourishing and maintaining ecosystems, biodiversity, river systems and floodplains.

In March 2016, World Forestry Day was celebrated in three schools of Bettiah. To commemorate the day, schools planted saplings in their campus and pledged to take care of them. More than 50 saplings were planted in these schools, consisting of various species such as fruit bearing, ornamental and medicinal. On the occasion, students were also briefed about the importance of forests and how they play a significant role in the ecosystem.

Training: During August 2015, three teachers training programmes were organised at Patna, Bettiah and Muzaffarpur under the Earthian~*Paryavaran Mitra* programme in which 170 eco-club teachers in-charge from 135 NGC schools participated. These trainings focused on water and sustainability, and the initiatives which

schools and eco-club students can take up for conservation efforts. *Paryavaran Mitra* Teachers Handbook was disseminated among NGC schools along with the Earthian booklet in Hindi on water and sustainability. Biodiversity campaign posters were also sent to the schools.

Monitoring Visits: During November and December 2015, CEE North team visited 40 NGC schools of Bihar spread across four districts - Vaishali, Nalanda, Rohtas and Gaya, to get a glimpse of eco-club activities being implemented in the schools. The objective of these visits was also to capacity build and facilitate the schools in implementing eco-club activities in their school; to get feedback and to document observations of the functioning of the NGC programme in the state. During the visit to schools, the CEE team discussed with eco-club in-charges and principals about eco-club activities and the constraints being faced by them in implementing the programme. During interactions with the eco-club teachers in-charge, CEE members shared ideas for documentation of eco-club activities like maintaining the eco-club register, celebrating various environment days and taking up action based initiatives. In some schools, interactive sessions and hands-on activities were conducted with eco-club members to give them more ideas on the activities they can undertake under the NGC programme. Overall, the visits proved fruitful and provided some very useful information which will be utilised to enhance eco-club activities in the state.

1.1.2 CEE Central

Chhattisgarh

The National Green Corps programme is being implemented in 27 Districts of the state, with

250 eco-clubs in each district, four Master Trainers and one District Coordinator looking. The State Nodal Agency is the Chhattisgarh Environment Conservation Board (CECB) and CEE Chhattisgarh is the State Resource Agency providing technical guidance, training, monitoring visits, preparing resource materials and providing facilitation support for various events throughout the year.

Coordination with State Nodal Agency: CEE conducted several meetings with the SNA - Chhattisgarh Environment Conservation Board (CECB) - during the year.

In Raipur, CECB organised a meeting of 25 District Coordinators on December 15, 2015 which was attended and facilitated by Mr. Devendra Singh, CECB Member Secretary; Mr. Amar Prakash Sawant, NGC Nodal Officer; and CEE Chhattisgarh Project Officer Mr. Sandeep Kumar Tamboli.

Training: CECB organised a Master Trainers training workshop during August 11-13, 2015, at Raipur. CECB coordinated the workshop while CEE Chhattisgarh acted as the resource team. The three days training conducted exercises relating to environment and development, Education for Sustainable Development (ESD), NGC programme, role of Master Trainers and District Coordinators, and activities that can be taken up by eco-clubs. The Master Trainers were provided Identity cards and a WhatsApp group was formed for to remain connected. Issues of natural resource consumption, climate change, water wastage and others were discussed practically by recording participants behaviour during the workshop like not switching off lights and fans while leaving the room and wasting food. About 88 Master Trainers from 26 districts of Chhattisgarh participated in the training.

A one day teachers training programme was organised in August by CEE Chhattisgarh under Earthian and *Paryavaran Mitra* Programme for eco-club schools in Government Mintoo Higher Secondary School Doomertarai, Raipur Chhattisgarh. The programme was followed by a briefing about the activities of eco-clubs and the opportunity for NGC schools to take part in Earthian and *Paryavaran Mitra* Puruskar programmes. With help from the District Education Officer (DEO) and CECB, the master trainers and district coordinators further conducted teachers training workshops in their respective districts. As a resource agency, CEE Chhattisgarh facilitated teachers training in various districts between October 2015 and January 2016.

CECB organised a meeting for District Coordinators (DCs) in Raipur, which was attended by 25 DCs. The meeting was facilitated by Mr. Devendra Singh, CECB Member Secretary; Mr. Amar Prakash Sawant, NGC Nodal Officer; and Mr. Sandeep Kumar Tamboli, Project Officer, CEE Chhattisgarh. The main objective of this meeting was to improve district level approaches to ensure better performance of eco-clubs and to review the status of trainings for teachers in-charge in the 27 districts of Chhattisgarh. The meeting also discussed the Nursery Development Scheme and a three day campaign in forest areas/wild life sanctuaries for eco-club schools to be conducted with the support of the Forest Department of Chhattisgarh.

Outreach Activities: In June 2015, Government Higher Secondary School Fundhar and Government Middle School Fundhar from Raipur, Chhattisgarh, organised Shala Pravesh Utsav in their school campus, an innovative welcome programme for the new

students joining the school. Mr. Satyanarayan Sharma, MLA, Raipur Gramin, and Mr. Pramod Dubey, Mayor, Raipur Municipal Corporation were present at the inauguration. The school eco-club members along with CEE organised a plantation programme on the occasion and community members from the area pitched in by providing tree guards for the newly planted saplings.

In July 2015, the Forest Department of Durg Circle celebrated Van Mahotsav through Hariyar Chhattisgarh Plantation Campaign with Government Higher Secondary School Belhari in Durg district. A 100 saplings of different types of plants (medicinal, fruit-bearing, shade giving, etc.) were planted on the occasion in the presence of Mr. S. K. Paikra, DFO Durg and other forest officials, Member of Zilla Panchayat, Eco-club District Coordinator, CEE Chhattisgarh and School Eco club and Scouts and Guides members. After the plantation programme, students took an oath to nurture and protect the plants. Janbhagidaari Samiti and guardians provided 35 tree guards. An essay competition and guest lecture were also arranged for the occasion.

In August 2015, a painting competition was organised by CEE Chhattisgarh for eco-club schools for Science Express Climate Action Special (SECAS) Train Window Exhibition at Raipur and Bilaspur cities of Chhattisgarh on various themes. About 271 students from five eco-club schools participated in the painting programme.

In September 2015, an orientation programme was organised by CEE Chhattisgarh for NGC eco-club schools for implementation of Earthian and *Paryavaran Mitra* Puruskar 2015. About 53 teachers and students from 20 schools were oriented during the programme.

The SECAS train was stationed in Bilaspur and Kumhari Railway stations in Chhattisgarh in February 2016. During this time, CEE Chhattisgarh State Office organised and conducted platform activities with eco-club members and other students. These programmes were complementary to the students' visit to the exhibition and were held on the platform, which provided enough space for sessions with larger groups. The students were encouraged to express their thoughts on the Climate Actionf topic through drawings, slogans and handprints. To widen their understanding of climate change, Quiz, Web of Life and Rope & Ladder activities were also conducted with them on the railway platform.

Monitoring: Monitoring visits were carried out in randomly selected schools covering 3-4 districts of Chhattisgarh. In all, 21 eco-club schools were visited, which brought in the realisation that schools need resource materials and guidance for undertaking action projects. Schools had conducted rallies, competitions, environmental day celebrations and plantation activities in the school campus and the surrounding areas.

Resource Materials: On the occasion of World Environment Day (WED), two posters on the themes of Biodiversity and Polythene in ready-to-print format were provided by CEE, which were launched at the WED event by the Nodal Agency.

Madhya Pradesh

Coordination with State Nodal Agency: Several meetings were held with the SNA - Environmental Planning & Coordination Organisation - to plan programme activities for the year.

1.1.3 CEE West

Rajasthan

Coordination with State Nodal Agency: Meetings were held with the SNA for conducting eco-club activities round the year.

Outreach Activities: Earth Day, International Day for Biological Diversity, World Environment Day and Ozone Day were celebrated as part of outreach activities. During the visit of the Science Express Climate Action Special to Rajasthan, Painting Competition for Science Express Climate Action Special in Rajasthan, painting competitions were held on the themes of Vasudhaiva Kutumbakam, Panchabhuta or Five Elements, Traditional Wisdom and My Responsibility for Climate Change. Environmental games and face painting activities were also held during this time in which about 80 students participated.

At the Bal Mela organised by CEE, 450 students took part in various competitions, an exhibition, environmental games and arts and crafts activities. A campaign titled *Ek Ped ki Zindagi* was also carried out during this period.

Monitoring: Monitoring visits were completed in seven districts ~ Alwar, Ajmer, Udaipur, Jodhpur, Jaipur, Dausa and Sirohi.

Trainings: Teacher trainings were conducted in August 2015 in 31 districts during the year.

Material Development: A Hindi booklet on Sustainability and Water, a brochure on Earthian and *Paryavaran Mitra* 2015, and a brochure on *Paryavaran Mitra* Puraskar 2015 were developed and disseminated to schools during the year.

Gujarat

Coordination with State Nodal Agency:

Meetings were held with the SNA for conducting eco- club activities round the year.

Monitoring: Ten monitoring visits were made during the year.

Outreach Activities: World Environment Day celebrations and Science Express painting competition were organised with schools as part of the outreach activities.

1.1.4 CEE North East

Coordination with State Nodal Agencies: Telephonic meetings were held with the SNAs of Assam, Arunachal Pradesh, Manipur, Mizoram, Nagaland, Tripura and Sikkim to discuss the activities for the year 2015-16.

Outreach Activities: In Assam, a series of five camps were held from during the period January 31 to February 9, 2015 at Prabhat Mela Camp Site, Majorpara at Bolbola in Goalpara district. Students from Kalyanpur High School, P. R. Government High School, Dolgoma High School, Krishnai Madrassa High School and Kalaguru Bishnu Rabha High School took part in these camps.

SECAS painting competitions were held in four districts ~ Kamrup (Rural), Jorhat, Tinsukia and Bongaigaon.

1.2 Paryavaran Mitra Programme

Paryavaran Mitra programme is an initiative of the Centre for Environment Education (CEE) in partnership with the Ministry of Environment, Forest and Climate Change, Government of India.

Paryavaran Mitra is a nationwide initiative to create a network of young leaders from schools

across the country, who have the awareness, knowledge, commitment and potential to meet the challenges of sustainable development in their own spheres of influence. The *Paryavaran Mitra* programme primarily seeks to reach students of class 6 ~ 8 (age group 11-15).

The programme, initiated in 2008-09 as a campaign on Climate Change Education, has developed as the flagship school programme that brings together CEE's 31 years experience in Environmental Education (EE) and Education for Sustainable Development (ESD). The programme involves students in problem solving by engaging them in action projects. The action projects taken up by students may or may not lead to immediate or significant improvement, but will definitely lay the foundation for sustained efforts through learning outcomes in the form of knowledge, disposition, competencies and behaviour. In Project Based Learning (PBL), action project/s are an extensive task taken up by a group of students to apply or illustrate classroom learning. This extends the boundary of education from information to experience.

Resource materials for the programme are provided to the schools to carry out action projects focusing on local environmental issues in the five themes of the programme, viz, Water & Sanitation, Biodiversity and greening, Energy, Waste management and Culture & Heritage.

1.2.1 Paryavaran Mitra Puraskar 2015

Exemplary work done by schools is recognised through the *Paryavaran Mitra Puraskar* (*Paryavaran Mitra Awards*). The annual award process was the major activity carried out in 2015-16 and saw entries in the school, teacher, student and district categories from all over India. The process of evaluating the entries

involved creating new criteria and benchmarks for the awards which enabled taking the programme objectives from awareness to Handprint action.

On January 11, 2016, a felicitation event was organised at CEE, Ahmadabad, where the participants got awarded for their laudable efforts towards the environment and sustainability. The exemplars awarded this year share various stories of their journey towards EE and ESD. They also represent the varied geographies across the country: Sikkim, Rajasthan, Telangana, Madhya Pradesh and Gujarat.

The efforts of the awardees clearly bring out the fact that though the initiatives seem small, they are worthy of being considered as examples that can be scaled up as learnings to others. The handprint actions coming out of these projects and taken together are moving closer towards creating a sustainable world.

The exemplars gained experience of real life situations through participating individually or collectively in projects that facilitated desired changes in present situations. These action projects undertaken by them are crucial for the development of critical reflective thinking, understanding complexity by analysing the issues at hand, systemic thinking to arrive at desired solutions to the situations, decision-making, planning and applying previous learning in new situations and coming up with innovative solutions to approach the issues in a scientific way.

Following are the exemplars at national level (National 2015l):

Exemplar School

1. Rachana School, Ahmedabad, Gujarat
2. Government Senior Secondary School, Hee Yangthang, West Sikkim, Sikkim

Exemplar Student

1. Shibajyoti Choudhury, Kendriya Vidyalaya 2, GCF, Jabalpur, Madhya Pradesh
2. M. V. Harshita, Bharatiya Vidya Bhavan's Atmakuri Rama Rao School, Hyderabad, Telangana

Exemplar Teacher

1. Dev Das Swami, Rajikiya Madhyamik Vidyalaya, Dhandal Lekhu, Churu, Rajasthan

1.2.2 Paryavaran Mitra Campaigns and Activities

It's Our Turn to Lead. Be a *Paryavaran Mitra* ~ Video Challenge: On the occasion of Earth Day 2015, CEE designed a social media campaign in partnership with Earth Day Network (EDN) to encourage school students to spearhead the environmental awareness activities among their school authorities, family and in their neighborhood.

The campaign was conducted from February 8 till May 14, 2015. The objective of the Video Campaign was to ensure that principals from different schools across the country share short videos of pledges taken by them for initiating actions to make their school greener in the coming academic year. Students, teachers, principals, schools, universities and organisations were invited to take the lead and make their city Swachh and Green.

Students explored one of the challenges their campus faced and shared the findings in a short video. The following were the issues to be addressed in the video challenge:

- Conserve Water
- Manage Waste
- Sustain Resources

-
- „ Add Green Cover
 - „ Reduce Carbon Emissions
 - „ Shift to Renewable Energies
 - „ Direct Thoughts to Green Buildings

After selecting the issues, students conducted research on the same in order to create a short video (not more than two minutes) and shared their idea for solving the challenge and convinced the school authority to take a pledge to address the issue in the next academic year.

The Facebook posts on the video challenge were designed keeping in mind the target group. The campaign followed the transformative Project Based Learning Pedagogy: **explore, discover, think, act and share.**

The campaign was designed keeping in mind that the commitment made by the school can later be implemented as an Action Plan and the actions undertaken can be recorded during the academic year. Principals, teachers and students up to 13 years were the main focus of the campaign.

In all, 70 commitment videos were received during the challenge. The videos were uploaded on *Paryavaran Mitra* Facebook page, encouraging the participants to gather as many likes and shares as possible. The videos were also linked to the EDN website and Facebook page. The challenge reached out to 101000 people through Facebook, Whatsapp and Emails.

1.2.3 Resources and Communication

Resource Material: The *Paryavaran Mitra* Teacher s Handbook is now available in English, Hindi, Urdu, Gujarati and Telugu as a soft copy on the resources tab of the *Paryavaran Mitra* website.

Communication Media Website: *Paryavaran Mitra* website was revamped to a lighter version and is now the gateway to several ESD initiatives. The dedicated Focused Initiatives webpage gives a wide array of different initiatives catering to different grade levels which any school can take up. The Campaigns page is a catalogue of all the campaigns conducted so far and ongoing campaigns which schools look for and participate in.

Newsletter: The monthly newsletter covers several handprint actions from schools across the country and gives information on various new engagements as well as upcoming events. The newsletter is also a medium to provide teachers with ideas of Handprint actions to work with students in schools.

More information on the programme can be had at: www.paryavaranmitra.in

Paryavaran Saathi - An online communication platform for educators: This service uses internet and mobile telephony to resolve queries of educators related to EE / ESD and reach out to schools and teachers in the network. The aim of the platform is to provide online support for educators to effectively transact EE/ESD in schools. The service was launched on October 14 and is now open in four languages: English, Hindi, Marathi and Gujarati. It will be available in all major Indian languages shortly. More than 1994 queries of educators across the country were addressed during the year. The toll free number for this service is 1800 3000 0996.

1.2.4 *Paryavaran Mitra* in the Northern Region

CEE North implemented *Paryavaran Mitra* programme in Uttar Pradesh and Bihar where

a series of workshops and events were organised.

Uttar Pradesh

Considering the extensive experience and work being done by *Paryavaran Mitra* network schools, a weekly e-newsletter was initiated at the state level to share the initiatives of *Paryavaran Mitra* schools, teachers and students along with our partners, schools and institutions across the state. The objectives of initiating this e-newsletter were to promote cross learning, create awareness, share the success stories of schools, educate the readers about the various aspects of the programme, announce new campaigns and activities, bring to note the learning outcomes and to make the call to action more effective. Every week one success story of a *Paryavaran Mitra* school is covered. The newsletter which began in January has received tremendous response within months from schools and teachers. The e-newsletter also seeks to explain the basic question which arises - what does it take to be a *Paryavaran Mitra*?

To reach out to more schools, CEE North adopted the strategy connect with schools one to one at various locations. For this, CEE team in collaboration with partner NGOs, educational institutions, and with the help of other school programmes networks, conducted sessions introducing the *Paryavaran Mitra* programme. Around 300 schools from 10 new districts of Uttar Pradesh were covered through various programmes.

The *Paryavaran Mitra* Puraskar announced at the end of every year saw tremendous response from the participants in all the three categories - best student, best teacher and best school. Over 160 reports were received out of which 26 reports were shortlisted for the national level assessment.

A State level quiz competition was also conducted by CEE North in October for all the *Paryavaran Mitra* schools across the state. To encourage schools from rural areas to participate, the teams at CEE's field offices followed up with them. The students expressed their views and concerns on the topics of Water and Biodiversity Conservation. Out of the 166 entries received from the state, the five best entries were awarded by the CEE team. *Paryavaran Mitra* Schools in the state also participated in the save sparrow campaign.

Bihar

Schools were encouraged to work on any of three themes of the *Paryavaran Mitra* programme. Water and Biodiversity were covered under Earthian-*Paryavaran Mitra* and Ganges river dolphin initiative. Waste Management and Culture and Heritage were taken up by schools with CEE guidance. About 49 reports were submitted for *Paryavaran Mitra* Puraskar by schools. These reports were reviewed by a panel at the state level and two were shortlisted for consideration at the national level Puraskar process.

1.3 Earthian - *Paryavaran Mitra* Programme

Earthian by Wipro is a nationwide initiative to deepen the sustainability education within schools and colleges across the country. Through a chosen theme, the programme aims to engage teams of students and faculties from schools in a set of activities to understand water and biodiversity in their local context and explore sustainability linkages.

Wipro and CEE joined hands in 2013-14 to work together through the Earthian initiative of Wipro and *Paryavaran Mitra* initiative of CEE. This year, biodiversity was added as an

additional theme to the programme. The partnership involved the schools in the *Paryavaran Mitra* network, particularly government schools with Hindi as the medium of instruction, in activities related to the issue/theme of water and biodiversity. This partnership programme was implemented in the states of Uttar Pradesh., Bihar, Rajasthan, Gujarat, Maharashtra, Chhattisgarh and Jammu & Kashmir.

The activities under the project involved development of an Earthian brochure and translation of the Earthian booklet into Hindi for dissemination in schools, and dissemination of Earthian material to schools in the *Paryavaran Mitra* network in the above mentioned states. It also included training of 1000 teachers from selected schools in these states to facilitate projects/activities on water and biodiversity in their schools and submission of 300 entries from schools in the above states.

A different strategy was adapted for each state as the *Paryavaran Mitra* programme itself has evolved organically from CEE's experiences since the last 31 years in different parts of the country. This year, the programme was initiated in July.



Game on env messages on WED 2015

Against a target of 1000 teachers to be trained under the programme, over 1085 teachers were covered through. About 599 activity reports were received against a target of 300 from participating schools.

1.3.1 Earthian – *Paryavaran Mitra* Programme in the Northern Region

Uttar Pradesh (UP)

The strategy adopted in UP was to use the existing network of schools which included the schools in UP working under National Green Corps, Children's Forest Programme and Ganges River Dolphin Conservation Education Programme and by involving CEE's partner organisations who have worked with schools in implementing *Paryavaran Mitra* programme in various districts of the state. The schools that are a part of our Yuva Paryavaran Leader programme agreed to take the lead in organising the Earthian-*Paryavaran Mitra* workshops this year. With their support, workshops were organised at Etawah, Allahabad and Varanasi. To reach out to a wider number of schools, the CEE team travelled with the Prakriti bus and share details of the Earthian-*Paryavaran Mitra* programme with more schools of other districts. Potential schools that were not a part of our existing network, were also identified and directly approached to conduct a workshop for students and teachers.

CEE North organised a series of five teacher training workshops across Uttar Pradesh in July and August, 2015, as part of 'Earthian' and *Paryavaran Mitra* Programme 2015 on the themes of 'Water and Sustainability' and 'Biodiversity and Sustainability'. The workshops were attended by more than 250 teachers from Kanpur, Allahabad, Varanasi,

Etawah and Lucknow. The objective of these workshops was to develop an understanding among teachers about environmental education, its curriculum linkages, components of 'Earthian' and *Paryavaran Mitra* Programme and the role of schools in participating and implementing these programmes in their respective schools and communities. Post teacher training workshops, follow up visits to schools were undertaken to guide schools in implementing the action projects. Project activity related materials consisting of a brochure and flier were sent to more than 1200 schools.

The schools participated in the programme with great enthusiasm. About 188 reports were received from the state. The results were declared in December and the felicitation ceremony was held in February, 2016 at Bangalore, where two schools from the state made it to the top 10 schools at the national level.

Bihar

For the Earthian-*Paryavaran Mitra* initiative in Bihar, the strategy adopted for year 2015-16 was to work with CEE's existing network of schools which included Ganges River Dolphin Conservation Education Programme and NGC Programme. Over the years, CEE North has developed a good network of civil society groups actively working with schools, which was also utilised to take the programme to a larger number of schools in selected districts.

During August 2015, three one-day Teacher Training Workshops (TTW) were organised at Patna, Bettiah and Muzaffarpur. Around 170 teachers from 135 schools attended these workshops and were briefed about Water and Biodiversity and what initiatives schools can take for their conservation. The objective of

the workshop were the same as for Uttar Pradesh.

During September and October 2016, CEE team visited the schools to provide motivation and to guide schools to carry out the project activities. Efforts were also taken to revive and strengthen dormant clubs. During the visit, the team interacted with the school Principal/ Headmaster and eco-club teacher in-charge to motivate them to take up conservation initiatives in their school. In some schools they also interacted with club members. Around 30 such schools were visited during this period and these schools were encouraged to submit their activity reports at the earliest.

Project activity related materials consisting of brochure and flier were sent to more than 900 schools and over 170 teachers were trained for the programme. In Bihar, over 40 schools submitted their reports.

1.3.2 *Paryavaran Mitra* Water Earthian Programme in CEE Central

This initiative was implemented in the school network of Western Ghats Special Eco-club (WGECS) programme, run by CEE Central earlier. The *Paryavaran Mitra* Water-Earthian aligned with the WGECS themes at various levels, the focus on Water Earthian was for schools to look at the inter-linkages between water and other themes in the local context. Workshops were designed for schools in the area to look at water and sustainability in depth in the school but also in the context of the Western Ghats. Some context specific strands that were covered in the workshop were the mapping of the watershed, health of freshwater ecosystems through study of flora and fauna of the reservoirs, traditional knowledge related to the onset of the monsoon and its implications in the region, and multiple

perspectives (social aspects) related to water conflicts in the region. The intent of the initiative was to engage with schools to explore water sustainability in their local environment linked/aligned to the overall themes of this programme and other CEE school programmes at the regional level.

About 150 teachers participated in the teacher orientations across five districts in Maharashtra. Self-explanatory brochures on the programme methodology were sent to 500 schools across the state and regular communication over WhatsApp and email maintained. Sixty six reports were received of which 31 had gone beyond the prescribed activities and hence were ascertained to be of good quality. Three of them won the national award while one more was shortlisted.

1.4 Ganges River Dolphin - Conservation Education Programme

Ganges river dolphin (*Platanista gangetica gangetica*) is listed as a Schedule-1 species in the Wildlife Protection Act 1972 and recognised as Endangered^f by the International Union for Conservation of Nature (IUCN). CEE North has been working on the species since its inception as part of river conservation initiatives. Being declared as a national aquatic animal, CEE team felt a need to give a strong emphasis to the way we present this shy and endangered species to school children and other stakeholders and most importantly to our nation. As a result, CEE with support from the Ministry of Environment, Forest and Climate Change (MoEF&CC), has initiated a two year Ganges River Dolphin ~ Conservation Education Programme in July 2010, whereby 20 project locations were identified along the Ganges

and Brahmaputra river systems in the four states of Assam, Bihar, Uttar Pradesh and West Bengal.

Based on Phase I experience, CEE is implementing Phase II of the Ganges river dolphin programme with support from the National Mission for Clean Ganga, National Ganga River Basin Authority under the Ministry of Water Resources, and Ganga Rejuvenation and River Development. The project titled "Educating Schools and Community for sustainable actions for conserving habitat of Ganges River Dolphin along Ganga River Basin" is being taken up as Phase II of the project.

As part of the school component, CEE North is working on 20 locations in Ganga Basin covering 10 locations each in Uttar Pradesh and Bihar; under the community initiative, CEE North is working with five villages each at Bahraich and Bettiah in these states.

School Interventions

CEE team has selected 20 locations based on the presence of Ganges river dolphin in the river and the need for such a programme in the area. The identified locations in UP are Hastinapur (Meerut), Bijnore, Jarwal, Katarniaghat and Mahsi in Bahraich district, Gonda, Faizabad, Kanpur, Allahabad and Varanasi. The 10 locations in Bihar are Supaul, Begusarai, Bhagalpur, Bagaha and Bettiah (West Champaran), East Champaran, Muzafarpur, Gopalganj, Patna and Saran.

Review Meet of NGO Partners

In June 2015, a one day regional review meet of NGO partners was organised by CEE North to review the status of the school programme being implemented by partner organisations and CEE north team at 20 different locations

of UP and Bihar. All the partners and CEE team shared the efforts put into the programme and the feedback from it. The partners made small presentations on the school activities, and also shared their challenges and learnings. Officials from Uttar Pradesh State Ganga River Conservation Agency (SGRCA) were present and addressed the participants and spoke about the role of different stakeholders in Ganges River Dolphin Conservation and the need for widespread awareness about the species. Over 20 participants representing 12 NGOs and CEE field offices from UP and Bihar participated in the workshop. A Memorandum of Understanding was signed for the next year's activities in each location which includes follow-ups, teachers review meet cum workshop, school activities, and community level and cluster level awareness events.

School Enrollment and Teachers Training Workshop

As part of the programme under school component, in each school cluster location, over 35-40 schools were enrolled by partner NGOs and CEE team with the support of the Education department. These dolphin cluster schools were located close to the river at 3-5 km distance. With enrollment, a two day teachers training was conducted in 20 clusters of project locations ~ 15 workshops in the first year and five this year - by CEE North in association with a partner NGO and Education Department in UP and Bihar. Each workshop aimed to orient teachers on formation of dolphin clubs in their schools, conducting curriculum focused classroom activities using the dolphin educational package and organising school level and community level awareness programmes.

During 2015-16, five teachers training workshops were organised covering Gonda and Kanpur in UP, and Patna, Bagaha and Gopalganj in Bihar. Over 200 teachers participated in these trainings, during which each teacher was provided with the educational package consisting of a dolphin activity book, display poster, dolphin badge, stickers and bookmark. Education and forest departments actively supported and participated in these workshops as resource persons. CEE North team members conducted various technical sessions and briefed the teachers on how to use education package in classroom teaching. They further guided schools in preparing their school action plan. One school in each cluster was selected as Ganges river dolphin - Education Resource Centre where a set of educational resources was provided for the use of cluster schools. Each cluster developed their strategy for dolphin awareness activities.

Dolphin Cluster Awareness Programme

As part of the Dolphin programme, school clusters in different locations in Uttar Pradesh and Bihar organised cluster level events which included dolphin awareness rally, ghat cleaning campaign, exhibition, nukkat natak, cycle rally, and Save Dolphin - Save Ganga pledge campaign. Dolphin schools along with local NGO and other partners organised dolphin awareness activities on environment related days like Dolphin Day and on the occasion of river related festivals. The cluster level awareness programmes were held at 16 dolphin locations in UP and Bihar. In some of these events, competitions on essay writing, painting and quiz were held. Schools were taken on exposure visits to the river bank, where fun and learn activities were conducted. More than 2800 children from

dolphin clubs took part in this event during which many of them creatively expressed their thoughts about dolphins in form of models, drawings, songs, poems and others.

Dolphin Education Resource Centre

The project envisages the setting up of a Ganges River Dolphin Education Resource Centre (GRDERC) in each dolphin school cluster. These centres will act as focal point for conservation education activities for the dolphin school clusters. The resource centre has been equipped with educational resources including books on biodiversity, posters, charts, water testing kit, awareness banner and films to help students and teachers explore and learn about Ganges river dolphin and its habitat, and help conserve it. Among the 20 dolphin school clusters, 18 resource centres have been identified. The material at the resource centre is available for the use of dolphin schools for reference and conducting awareness activities.

Teachers' Refresher cum Review Meet

As part of the programme, one day dolphin teachers refresher cum review meet was organised, with the objective of reviewing the



Dolphin refresher meet Katerniaghat January

progress of the programme and planning project activities for the next phase. In the refresher meet, Dolphin in-charge teachers were also given re-orientation and hand holding support for effective implementation of the programme at school and community level.

During the year, over 14 refresher meets were organised in various clusters in UP and Bihar. Over 450 teachers participated in these meets and were provided with the educational package that includes a dolphin activity book, display poster, dolphin badge, stickers and bookmark.

Dolphin Outreach Event

As part of the Dolphin project, two Dolphin outreach events were conducted in non-dolphin locations with the collaboration of Regional Science City, Aliganj, Lucknow. The objective of the events was to spread awareness and to sensitise the youth and other stakeholders in non-dolphin locations about the conservation of Ganges River Dolphin.

The first outreach event was held in Lucknow in April 2015 at Regional Science City, Aliganj, Lucknow, with 130 students of 15 schools of non-dolphin locations and 16 students from four dolphin clusters of UP participating. Students took part in different activities like painting competition, rangoli, exhibition, dolphin quiz and essay competition. The Secretary, UP State Biodiversity Board spoke about the conservation of the state's biodiversity and also appreciated the conservational effort of students and teachers. The Deputy Director of MoEFCC's regional office also addressed the children on conservation of rivers.

The second outreach event was held in New Delhi in August 2015 at the National Bal



Rangoli competition during dolphin outreach event

Bhawan. The participants numbering about 250 students of 20 different schools of non-dolphin locations and 20 students from four dolphin clusters of UP and Bihar took part in different events like painting, rangoli, exhibition, quiz and essay writing.

The Aquatic Biodiversity expert from National Mission for Clean Ganga (NMCG) addressed children and conducted an interactive session on the dolphin and its habitat, which, he pointed out, is being polluted due to several factors like domestic and factory waste and flow of non-point source of pollutants. He appealed to students to join hands for the conservation of Ganges River as well as Ganges river dolphin.

Dolphin Day Events

On the occasion of Dolphin Day, CEE, with the support of National Mission for Clean Ganga (NMCG), organised events in 10 locations. Dolphin schools participated in awareness rallies, slogan writing, essay writing, painting competitions and quizzes. Students belonging to dolphin clubs observed the day and also actively participated in the wildlife week programmes. They adopted different modes of communication to spread awareness amongst the masses. During the

event community members, government officials, teachers, and fishing communities were urged to come together to save this beautiful animal and its home.

1.4.9 Dolphin Census

With the declaration of the dolphin as a national symbol, an expert committee has developed a 10 year action plan (2010-20) where census of the species was enlisted as a key activity. In Uttar Pradesh, the UP Forest Department and WWF jointly initiated the dolphin census in all rivers of the state, which effort was supported by the National Mission for Clean Ganga (NMCG). The method of census study suggested by the Cetacean Specialist Group of IUCN was adopted.

To involve a wider number of institutions, WWF and Forest Department invited CEE and its dolphin partner NGOs to participate in the process. A one day orientation meet for all stakeholders was organised to discuss the plan and strategy. CEE team of three members and six NGO partners of UP were involved in the three day dolphin census study, which was flagged off on October 5, 2015. Teams were given on-site orientation for recording data and understanding the technicalities of the census.

To complete the census in all the rivers covering a distance of 3350 km in UP, 19 teams were formed with 10 members in each, where seven members were on a boat and three were in backup support. Each team was allotted a river stretch of around 180-200 km and recorded their observations like time of spotting the dolphins, their GPS location, characteristics of habitat and other species seen with the dolphin at the time, on a data sheet. About 1263 dolphins were counted during the census; in the 2012 census, 671 dolphins had been counted over a 2500 km river stretch.

1.4.10 Development of IEC Material for Schools

As part of the dolphin initiative, CEE team developed awareness and classroom display material for schools. The Dolphin manual and display poster were updated and reprinted for dissemination in the additional dolphin schools. For events, t-shirts and caps were developed for use of school children during awareness activities. An environment calendar focusing on the theme of dolphin and its conservation under the project was also developed.

1.5 Children's Forest Programme (CFP)

Children's Forest Programme (CFP) is a project that has been initiated in six districts in 2010 under the Uttar Pradesh Participatory Forest Management and Poverty Alleviation Project (UP-PFMPAP) of UP Forest Department, supported by Japan International Cooperation Agency (JICA). CFP aims to create an understanding about the value of trees among children, and to motivate and support them to plant saplings in school campus, and ensure their protection. The programme focuses on engaging children, teachers, school management and local community in meaningful action, to promote environment conservation. CEE North has implemented CFP in Lucknow district of Uttar Pradesh.

Given the overwhelming response in the six districts, Phase II of CFP has been introduced where seven more districts have been selected for the CFP initiative. CEE North has the responsibility now to implement the programme in Bareilly district in this phase, along with Lucknow district.

1.5.1 Activities in Lucknow District

In April 2015, CFP schools were invited to the national workshop organised by UP-PFMPAP with financial assistance by JICA, which was attended by forest officials from 16 states who shared their experiences of conservation efforts carried out as part of forest management and poverty alleviation activities.

CEE North, under its CFP programme, celebrated Earth Day at Mayadevi Memorial High School, Achlikheda, Lucknow. Highlighting the theme of Water Wonderful World and Clean Earth ~ Green Earth, CEE organised a quiz and painting competition. More than 100 students and teachers from nine schools of Lucknow participated in the event. The aim of the programme was to sensitize the students and teachers about the reasons and negative impacts of climate change and their role in making their cities cleaner and greener.

CEE North conducted the international Green Wave Campaign on May 22, 2015 - International Biodiversity Day, with ten CFP schools actively participating and planting trees of their choice at 10.00 am in their school campus. Environment events and awareness programmes were also organised in various CFP schools. The campaign aims to enable children to make a difference around them ~ in their own school campus, home and neighbourhood, and promotes a message of One School-One Tree-One gift to Nature .

During summer vacations in CFP Schools, CFP team visited community areas near CFP schools, taking it as an opportunity to interact and discuss with community members about their views on conservation issues. CEE team regularly interacted with schools on survival

of plants, environment action plan implementation, environment awareness activities and self-assessment, as well as participation in other initiatives such as *Paryavaran Mitra* and Earthian.

CEE North planned and developed a short video documentary to document the process adopted for CFP and to capture success stories. With a script prepared for the documentation, the activities of teachers and students - taking care of plants, plantation techniques, curriculum linkage, display of CFP code - were covered in video. The documentation also included bytes from community members and key officials of the implementing and supporting agencies. CEE completed the CFP film documentation titled "Let's Paint the Earth Green" or Dhara ko rang do hara. This short film of 10 minutes captures the overall concept of the programme and success stories of CFP schools. This film arose out of CEE team's felt need to document EE initiatives undertaken in Lucknow schools, though it was not planned as part of project earlier.

CEE initiated the final round of tree plantation in all the three batches of schools for mortality replacement. After summer vacation, and with the onset of the monsoon in July 2015, over 4000 saplings were planted in 40 CFP schools, based on a list prepared by CEE of indigenous species available with nearby nurseries and suitable for the district's soil condition. Students were oriented about the importance of planting indigenous varieties and specific benefits of each species, as well as biodiversity focused conservation, as a result of which students eagerly volunteered to take up soil preparation, plantation and nurturing of saplings, and also taking care of other trees in the campus. Those who wished to plant trees in their homes were given sapling for the same.

During July-September, the mobile exhibition bus Prakriti visited the CFP schools of Lucknow district, which helped to reinforce in the young minds the value of biodiversity.

From October 2014-November 2015, CEE team regularly interacted with schools on the survival of plants, environment awareness activities, self-assessment, and participation in Earthian and *Paryavaran Mitra* initiatives. Based on schools' performance, five model schools each were selected from the three batches (A, B and C) of CFP schools. The selection was based on the criteria of survival of plantation, effective work on the seven steps process, school and teacher involvement in all activities, spreading the green message through self motivation, innovation in environment conservation activities such as waste management, water conservation and biodiversity documentation.

In December 2015, CEE North organised an Environment Awareness Programme for CFP schools in different zones of Lucknow, with the objective of creating awareness, educating and promoting green habits of consumption in students so that they can reduce their ecological footprints and increase their hand print. CFP schools participated in painting, poem writing, slogan writing and environment quiz competitions. Participating schools shared their views on and initiatives taken up by them towards environment conservation and awareness, which helped motivate other CFP schools. More than 600 students from 30 CFP schools of batch C participated in the events.

A final overall report of the project was also developed by CEE team capturing the work undertaken in 100 schools of the district along with the outputs and outcomes of the project.

1.5.2 Activities in Bareilly District

CEE team was given the responsibility of implementing the Children's Forest Programme (CFP) in Bareilly district in Phase II, for which activities were initiated in November 2014 with selection and identification of CFP schools.

Enrollment and Orientation of CFP Schools: In consultation with the Education Department, CEE team shortlisted from five zones of the district based on the criteria of the interest of the school in the programme, plantation space, boundary wall and community linkage. After visiting individual schools, 50 schools were enrolled for the programme. CEE team conducted an orientation session for 30 schools during the last year.

In 2015-16, 20 more schools were oriented on the importance of forests and the mini forest to be created in their school.

Nature Tour for CFP Schools: CEE team conducted 20 day long nature tours to the Forest Research Centre, C. B. Ganj, Bareilly, during November and December 2015, in which over 1600 students of classes 5 to 8, along with 40-50 teachers, participated. The Forest Research Centre is spread over eight acres with a meditational garden, tissue culture laboratory, arboretum, a lush green forest and a bamboo forest. The main objective of the nature tours was to provide a unique experiential learning opportunity to the CFP action team where the students were exposed to the splendor of nature through different activities, educational games and a nature trail. The tours were planned in such a way it combined fun and learning, as it provided them knowledge about the flora and fauna of the area.

Environment Awareness Events: In April 2015, the project team at CEE Bareilly observed Earth Day by organising an event at Indian Veterinary Research Institute (IVRI), Izatnagar, Bareilly. More than 230 students and teachers from 35 CFP schools of Bareilly district participated in the event, which aimed to sensitize them on the causes and impacts of climate change. Environmental movies were screened to create awareness in them about environmental issues and ways of protecting the environment. Simultaneously, more than 140 students participated in an exhibition and a painting competition on the theme of '**We would save the environment**'.

In May 2015, on the occasion of International Biodiversity Day, CEE North encouraged and motivated the CFP schools of Bareilly to actively participate in the International Green Wave Campaign, by planting indigenous species such as amla, neem, mango, guava, kachnaar and others. After the plantation, students and teachers took a pledge to protect and conserve the planted saplings.

CEE encouraged CFP schools to observe green festivals during Hariyali Teej and Raksha Bandhan. On Hariyali Teej, CEE organised a biodiversity focused Mehndi competition, where 21 schools participated. On Raksha Bandhan, used waste material to prepare their own rakhis and tied them to the saplings they had planted, based on their understanding that plants provide us oxygen and all the basic necessities for our survival.

In October 2015, CEE celebrated Wildlife Week where CFP schools were encouraged to organise an awareness rally and essay writing competitions. About 270 students and teachers participated in the rally which was organised from Government Inter College to Methodist Girls Inter College, Bareilly. Around 67

students took part in the essay writing competition.

Teachers Training Workshop: CEE's Bareilly Project Office organised a two day Teachers Training Workshop under the CFP in May 2015 at the Indian Veterinary Research Institute, Izatnagar, Bareilly. CEE teams from Lucknow and Bareilly facilitated the workshop. The Chief Conservator of Forest, Bareilly Zone inaugurated the workshop and spoke about the critical role of a teacher. The Senior Scientist at IVRI, as guest faculty, spoke to the teachers about Climate Change and how this requires us to focus more on our health and hygiene. The Divisional Forest Officer, Bareilly also spoke to the teachers about Climate Change and the Role of Forests in combating climate change. In the concluding session, the Director of IVRI delivered the valedictory address and also distributed participation certificates. Around 90 teachers from 43 schools participated in this training workshop.

Saplings and Equipment for Plantation: As part of the programme, CEE provided a set of plantation equipments to each CFP school, which included fawda, watering pipe, plastic fountain, khurpi, tasla, connector, nozzle, plastic bucket and plastic mug. CEE also provided two 50 kg bags of manure to all schools during the plantation activities. Apart from this, two registers for documenting the status and progress of the plantation was also provided.

CEE initiated the tree plantation in CFP schools with the onset of monsoon, in July-August 2015. It was planned that each school would plant 100 saplings and 15 more would be distributed to selected active students. The saplings were based on a list prepared by CEE

of around 21 species of indigenous varieties available with the Forest Department nurseries and suitable for the district soil condition. About 5000 saplings were planted in 50 CFP schools and 769 saplings distributed to students and local communities, taking the number to 5800 plants planted during the quarter.

Adopting Seven Steps: Each CFP school was guided to adopt a seven step process to become a CFP school. CEE team guided the teachers in-charge to form a CFP Action Committee engaging students, teachers, non-teaching staff and community members. Most of the schools clubbed this with the Village Education Committee and in some cases with Meena Manch activities. Each school formed a students CFP group which conducted an environment review of the campus and developed an action plan. Based on the action plan, an action code was developed and adopted by each school. The system to monitor and evaluate progress was devised by each team through which meetings and documentation was undertaken. The community's engagement in the activities was also ensured by schools in different ways.

Educational Aids: Under the project, each CFP school is provided with a set of educational material including reference books, activity booklets, posters, stickers, t-shirts, caps, environment calendar and flex banner. CEE team also developed stickers, tree posters and other display material. A set of publications from CEE's school series and as well as from other publishers was identified for distribution. During the year, educational material was distributed to 15 CFP schools. A poster was also developed based on 14 indigenous trees for CFP schools.

1.6 Global Citizenship for Sustainability (GCS) Marine

CEE, with support from the International Union for Conservation of Nature (IUCN) - Mangroves for the Future (MFF) and the Adani Group has designed, developed and initiated the Global Citizenship for Sustainability (GCS) Marine - which is an action research-based sustainability education programme for school-communities across countries. GCS Marine offers a template of exchange and engagement across diverse cultures, and in countries and regions at different points in the development continuum.

The programme offers an exciting and challenging opportunity for students to work on sustainability issues along their coast and build leadership and problem solving skills. It connects schools on a global level to work on common coastal and marine sustainability issues through a seven step Learning Journey methodology. The GCS process seeks to prioritise values education, the building of partnerships, as well as innovative ways of pooling resources and involving students in problem solving.

During the current year, eight schools along the Gujarat coast connected with five schools along the Queensland coast in Australia. This connection is uniquely referred to as the Project 1600 (symbolising 1600 km of the Gujarat coastline). Projects undertaken by schools revolved around mangrove restoration; study of local fishing diversity; cleaning campaigns; biodiversity survey, turtle conservation and others. The project activities have been documented and shared in the International Conference on Education as a Driver for Sustainable Development Goals during January 11-13, 2016 at Ahmedabad. Further,



Students of Shri Vasishtha Vidyalaya - Surat learning Mangrove plantation technique from a local villager_1

the project findings, observations and feedback have contributed towards development of learning outcomes, measurements and indicators for Global Citizenship Education (GCE).

The GCS Website (<http://ceegcs.org/GCS/client/index.php>) has further details of the programme and has the scope to enrol any school across India and internationally.

1.6.1 GCS Marine Programme in Tamil Nadu

CEE Tamil Nadu has initiated this international IT enabled sustainability, global citizenship and marine conservation education programme for schools along the coastal districts of Tamil Nadu and Pondichery (nine schools from TN and one from Pondicherry), in collaboration with the Department of Education.

1.7 ESD Food

ESD Food was an international collaborative learning initiated by the Asia Pacific Cultural Centre for UNESCO (ACCU) and supported by the Ministry of Education, Japan. Taking

the idea of Rice (ESD Rice was a project that was implemented in six countries including India in the previous financial year) further, this project sought to develop the abilities of its learners in the areas of problem solving and decision making based on diverse values including an international perspective, as well as on critical and creative thinking.

Five schools from Kerala, India, and seven from Japan were part of this project. A workshop on understanding the concept of ESD and an overview of the project was held in India and Japan (India in July 2015, Japan in September 2015), with ACCU experts as resource persons. The broad themes within which the projects were to be undertaken were: Food and Economy; Food and Environment; Food and Society; and Food and Culture. The schools in Kerala worked on the topics of change in diet, genetically modified food and health, traditional agricultural methods, food additives, traditional food culture, food preservation, mass production and mass disposal, and malnutrition. The schools in Japan also took up similar topics for their projects.

At several stages in the project, the school teams in India and Japan working on similar topics

connected with each other over skype and exchanged their idea, experiences, cultural differences and project findings. The student teams prepared well for these interactions by preparing charts and graphs, graphical representations of the project and other material.

The schools gained an understanding of the cultural differences and similarities between Japan and India (eg. Both are fish and rice eaters but the ways the items are prepared are drastically different) ~ in the areas of food, agriculture, changes in eating patterns in youth, health aspects of food, the popularity of fast food among youth and many other such interesting aspects.

The project was implemented during the period September 2015 to January 2016. When an ACCU resource person visited India to participate in the International Conference on Education as a Driver for Sustainable Development Goals, two of the connected schools took the opportunity to exchange some food items. She carried some Japanese food items for the school in India while the India school sent some through he to their counterpart in Japan.



1.8 Young Master Programme (YMP) on Sustainable Development

Young Masters Programme (YMP), a course on sustainable development, was initiated in 1999, by the International Institute for Industrial Environmental Economics (IIIEE) at Lund University, Sweden as a global web-based education and collaborative learning network. YMP is an international, online educational programme - free of charge - for upper secondary students and their teachers. The course material is divided into 18 missions. Each mission takes about a week to complete and requires 3-5 hours of work. The whole course normally takes about 20 weeks.

CEE joined hands with ISYMP to implement the pilot phase of the course in India, which was formally launched on October 14, 2012 during the ESD Conference organised by CEE as part of the Convention on Biological Diversity (CBD) ~ Conference of Parties 11 (COP 11) in Hyderabad, India. CEE North, being designated as the programme Secretariat, initiated the implementation with an internal workshops followed by teachers orientation.

During 2015-16, eight schools with 29 student groups from six cities joined the programme and are actively pursuing the course. Since the start of the programme, over 140 student groups (550-600 students) from more than 40 schools and teachers have been associated with the programme.

1.9 Eco-Schools Programme India

Eco-Schools Programme is a sustainable schools programme being implemented in about 60 countries globally. This programme helps students to connect with each other and

take action on environmental issues of concern to the school and the immediate community. The programme in India is offered through five thematic areas including Biodiversity, Energy, Waste, Water and Healthy Living, and schools need to adopt a seven step methodology for the implementation of the same. The programme has been presently been tailor-made for the primary classes (1-5).

About 30 schools, including both private and government, enrolled for the programme in 2014-15. Some of these schools also received a small funding support to implement the waste management proposal submitted by them. Individual schools adopted different themes to implement the programme. Towards the end of the academic year, the enrolled schools were assessed on whether they could be awarded the Green Flag, the international certification for successfully completing the programme.

1.9.1 Eco-Schools Programme in Lucknow

A school from Lucknow enrolled for the international Eco-Schools programme in September 2014. CEE North oriented the school to the programme and guided them on following the seven step process. CEE team facilitated the development of environment action plans in three thematic areas chosen by the school, viz. waste management, water and biodiversity.

The school worked extensively towards effectively managing the waste produced in their school and practices segregation of waste at source; the campus has now been declared a polythene free zone. Their work on biodiversity has resulted in further greening of the school campus and helped students in realising the importance of biodiversity; students have adopted trees in the school

campus and feed the pets. The school is also making good progress in water conservation in the school campus.

The next step would be an evaluation of their work to determine the award of Green Flag to the school. The programme is gaining momentum in the state as schools have shown interest in enrolling in the programme for 2016-17.

1.9.2 Eco-Schools Programme in Tamil Nadu

CEE Tamil Nadu facilitated the implementation of this programme on a pilot scale in Tamil Nadu and provided guidance in management of waste to a school by helping set up a vermicompost pit and handmade paper unit in the school campus.

1.9.3 Eco-Schools Programme – CEE Central

CEE Central facilitates four primary schools in Mumbai and one in Pune for curriculum linked activities and projects related to sustainability as part of the Eco-Schools Programme. Activities include conducting a teacher orientation followed by facilitating teachers to prepare school action plans, forming eco-school committees, carrying out actions, and reporting to receive the Eco-School certification at the end of the year. Opportunities also include connecting with other eco-schools in the International Eco-Schools network.

1.10 Continuous Engagement Programme (CEP)

Continuous Engagement Programme (CEP) is a three year initiative of Wipro, in collaboration with CEE and Avehil Abacus, a Mumbai based NGO. This programme is driven by the

objective of enhancing the teaching and learning process, making it more interactive, learner-centric, participatory (such as learning from peer and community) and empowering. From over two hundred schools that had participated in the *Earthian-Paryavaran Mitra* programme during 2014 and 2015, six schools from Uttar Pradesh and two schools from Bihar had made it to the national level award. As part of the award, Wipro and CEE are working with these winner schools through the CEP initiative which aims to enhance social and environmental sensitivity among children.

1.10.1 Continuous Engagement Programme in Uttar Pradesh and Bihar

CEP envisages a series of six modules which are to be introduced in the project schools over a period of three years. Module 1, titled "My World", has been designed with the objective of supporting a child in understanding that learning is a continuous process and that we learn from our surroundings ~ teachers, family, friends, pets, neighbours, nature and others. Module 2, which was recently introduced, conveys the idea that we share a remarkable home, the Earth, with lakhs of other living things - plants and animals - all of which have developed over many crores of years as a result of a never ending process of change.

The first year of the programme was conducted with children in grade 6, with the module running for three months. The students and schools have been allocating time for and actively participating in this new approach of teaching-learning. The activities and home assignments are designed in such a way that the students find it very interesting and fun to learn. The module also provides space for the teachers to infuse the module topics touched with the syllabus they have to teach/ cover.

The following activities were conducted during 2015-16 as part of this project.

In August 2015, a regional level CEP workshop was organised at Lucknow, with the objective of introducing Module 1 based on the environment and social course of class 6, to the teachers from the schools where CEP will be implemented. Teachers from CEP schools of Delhi, Uttar Pradesh, Bihar and CEE's internal team participated in this workshop, with the sessions being facilitated by CEE and AVEHI team.

Subsequently, CEE team also attended the City Montessori School (CMS) network's monthly environment coordinators' meet where the school management was apprised about the post Earthian award - Continuous Engagement Programme which their school was a part of. The management responded positively to this and the head of the network appreciated the module, and has requested the school to devote time for CEP activities.

During October 2015 - February 2016, CEE North team visited the six CEP schools across UP and Bihar, with a view to assess the implementation, effectiveness, understanding and feasibility of the module, both for students and teachers. The schools thus visited were: ML Convent School, Jalaun; Purva Madhyamic Vidyalaya, Itaunja; Purva Madhyamik Vidyalaya, Bibipur; KGBV, Mohanlalgunj, Lucknow; and Rajkiya Kanya Madhya Vidyalaya, Sheikhdurwa, Bettiah. The team held an interactive discussion and follow-up questions with the students. The interaction with the government school was conducted after modifying the questions of the assessment sheet to suit their system. During the visit, CEE team observed that the activities were conducted effectively by the teachers; the major objectives of the activities were well

understood by the facilitators and also communicated to the students; students responded well to the questions, with the realisation of how all of us are dependent on each other, and each one of us has some unique qualities. Students could co-relate their learning with the activities they had undertaken during Earthian and also their day to day life.

1.11 Swapnilshala

Anandshala, a whole school development approach, was developed by CEE Rural Programme Group in partnership with UNICEF in Gujarat in 2003, and since then has been used as a model and methodology for education by various stakeholders in different states. Literally meaning school of joy, it is a model for the holistic development of a child, established through participatory visioning exercises, local capacity building and provision of support in terms of financial and technical resources. It correlates formal education with life skill activities and strengthens the existing institutions for developing a child friendly school environment.

To address the issue of migration, the Anandshala approach has been adapted as Swapnilshala and is being implemented by CEE West with support from Ashiyana Housing Limited at the Govt. UPS, in Ghatal, Bhiwadi, which is an industrial hub of Rajasthan that faces a problem of migration. Migration - short or long duration - affects children's education. Though ideally children should get enrolled where they migrate, they are a scattered population, and it is difficult to keep track of them from their home village. Migrant families move taking their children with them and stay on a location for a long but uncertain duration. These non school going

children are also an extremely vulnerable group. With a child specific intervention to mainstream him/her, Swapnilshala project entails process quality assurance and results in the development of a model that can be replicated by education departments and governments for achieving the goal of education for all.

The objectives of Swapnilshala project are:

- Create a conducive physical environment by improving existing school infrastructure facilities for quality education in the government primary schools of the project area
- Initiate a process of upgrading the quality of education through tools, techniques and strategies that capacitates educational functionaries for effective quality education
- Create multiple levels of engagement amongst stakeholders in a school context (community, school management, allied institutions, government department) to facilitate a better quality of education and to internalise and support Swapnilshala on a long-term basis
- Create a model idea to mainstream non-school going children

Activities conducted under the Swapnilshala project in 2015-16 are as follows.

- **Special Training Programme for Children:** An initiative towards quality education for all - To set up a model and support school management in designing and implementation of this facility, a special training programme (STP) was organised for the students of classes 3 to 6, who were graded as being below age appropriate attainment levels and were facing difficulty

in learning language and maths. STP involved approaches of inclusive and joyful learning and supporting the teacher to deal with multi-grade multi-level classroom situations, leading to enhancing the quality of education via a child specific intervention. A variety of teaching learning approaches were utilised like games, performing arts, art and crafts, peer group learning and others. Local community members were also involved in some of the activities. Extending the STP to the community helped to resolve the issue of enrolment of non-school going children, as they realised the role of education in the development of children.

- **Exposure Visit for Teachers:** Teacher empowerment is a critical element in the success of the present educational system. In order to make teacher critically think about their subjects and how can they utilize the available resources and nearby space to engage students, a one day exposure visit was organized at Delhi. Total of 10 teachers and one community member participated in this visit. Visit was organized at Akshardham temple and National museum of natural history in July 2015. The visit gave some insights regarding how outdoors can supplement the learning of children and thus can make study more fascinating. Benefits from exposure programmes are endless, the most important of them are exchange information, drawing principles and lessons that can be adapted and adopted.

- **Workshop on Teaching Learning Methodologies:** A workshop for teachers on Teaching Learning Methodologies was held in October 2015 whose aim was to make teachers understand the importance

of creating learning environments that are more interactive, the significance of collaborative learning strategies, and the importance of motivation. The workshop started with an icebreaker activity followed by a session on storytelling which explained to the teachers the importance of expression and the pitch of voice in storytelling. A session on maths highlighted the use of maths tricks and maths magic to make the learning of this subject more interesting. The workshop concluded with the screening of a video clip *Lead India* which conveys a strong message on: Take the lead and make a difference.

Visit to Science Express Climate Action Special (SECAS) Train: An exposure visit for children of standard 7 and 8 to the SECAS was arranged in December 2015. Children were ferried by bus to Rewari Anaj Mandi Station where the mobile exhibition train Science Express Climate Action Special was visiting. The children observed the exhibits related to climate change and were very keen to know more about them. They also interacted with the communicators present in the train to clarify their doubts. The entire visit was fruitful as this was the first time they were taken for any such exposure visit.

Bal Mela: A Bal Mela was organised in February 2016, which had different sections like Science, games and arts & crafts. Before the event, selected children were oriented on a topic of their choice which they wished to demonstrate at the Bal Mela and helped to prepare charts and other material to exhibit in their stalls. On the day of the mela, children who were oriented were assigned stalls which children from their own as well as

neighbouring schools and community members visited. Around 450 children participated in this Bal Mela. Activities carried out during this event include balancing pencil, natural pH indicator, how does the aeroplane fly, Newton's car, coloured disc, Soma's cube, pin the donkey's tail, thread painting, thumb painting, and snake and ladder game linked to sanitation.

School Newsletter by Students: Eleven issues of a school level handwritten newsletter were developed by the students with editing support from their teachers, which helped to improve their observation,



Special Training Programme_1
_swapnilshala_Education for Children



Special Training Programme_1
_swapnilshala_Education for Children

writing and communication skills. The newsletter was sent to state government officers, district education officers, block education officer, district collector, parents of the students, community members, and members of the school management committee.

1.12 Mari Shala

Mari Shala is a project initiated by CEE Field Office, Halvad and is a joint initiative of Reach to Teach, CEE, Ahmedabad for Quality Education, and the Department of Education, Government of Gujarat. It works collaboratively with communities and schools to support enrolment, encourage attendance, improve teaching and learning quality and overall pupil learning outcomes. The project envisages the following sub objectives:

- Ensure children of school going age in the project area attend school regularly
- Promote high quality teaching and learning processes in the classes 1 to 5 of government schools
- Build the capabilities of the School Management Committees (SMCs) to enable them to carry out their key functions with respect to attendance issues (both teachers and children) and school infrastructure more effectively
- Ensure a protective environment for children within the project schools

Mari Shala seeks to promote high quality teaching and learning in Pragna (an activity based learning approach by the Sarva Shiksha Abhiyan) for classes 1 to 5 of government schools through a paired professional development approach. The approach helps to develop critical teacher behaviours and skills for a learner centered environment,

through specialist trained teachers who co-teach with the government school teacher, who otherwise has difficulty getting out of class to attend regular training.

The project was initiated in 30 selected schools based on specific criteria that include shortage of teachers and low Gunostav grading. (Gunotsav is an accountability framework for quality of primary education which includes learning outcomes of children as well as co-scholastic activities, use of resources and community participation in government schools of Gujarat).

The community team working on the project collected data on the irregular/highly irregular children from the project schools. In the first year of the project, 289 children from the 30 project schools were motivated to enroll after resolving issues like birth certificate, attainment level, interest, family issues and lack of papers for admission by the Community Facilitators. The overall student learning outcomes after assessment are 71% in the project schools and 40% in other government schools of the same block.

1.13 Gyansetu

Gyansetu is concept developed by CEE to provide accessibility of digital education materials to teachers in order to improve classroom teaching. Teachers being the backbone of the education system, improving their capacity to use digital technologies, update knowledge and use efficient teaching learning methods in the classroom will help improve the overall quality of education manifold. The project interventions are expected to tremendously enhance the capacities of teachers to become facilitators which will have a lasting impact on their interactions in the classroom.

Gyansetu was initiated in 2012 with the support of Education Innovation Fund for India (EIFI) 2012 as an award. With this, an Android base application ~ which can function both online and offline - and portal has been developed to connect the teacher through a server. As a pilot project, 10 school teachers from the tribal area of Valsad district were provided tablets to access the application and portal (website). The tablet was preloaded with educational audiovisual digital materials procured and/or developed by CEE. The pilot has now been successfully extended to 183 schools of five districts of Gujarat, and also covers classes 1 to 8 for all the major subjects.

In Mundra, the *Gyansetu* project is being implemented as part of the Corporate Social Responsibility (CSR) activities of Mundra International Container Terminal (MICT).

Gyansetu Advance (portal) is a further value addition where school teachers and students can interact using the technology platform. Its objective is to facilitate existing education methodologies in various ways, including imparting of new skills to teachers as well as students, providing useful additional content apart from regular school curriculum, and enabling teachers to conduct continuous skill



Gyansetu

evaluation of students. It also gives a chance to students to learn at their own pace.

1.13.1 Key Activities of the Project

Teacher Orientation Workshop: The *Gyansetu* application and supportive hardware need an orientation before it can be used. The stakeholder also needs to understand the concept and idea. The teacher workshop therefore covered the project orientation and the optimal ways of using the device and the web portal. During field visits, it was found that teachers are very eager to be a part of the project. There was also a suggestion that the tablet should be given before the new term to enable the teacher to get acquainted with it. Nineteen teachers - one each from the project schools and three Cluster Resource Centre (CRC) and Block Resource Centre (BRC) heads participated in the orientation workshop.

Gyansetu Advance Version Planning Workshop: A one day workshop for teachers and resource persons from the government education department including state resource group (SRG), textbook writing group, software designer and a technical team of 15 participants. After Ms. Radha Madhav s (SRG member, textbook writer and teacher) and Mr. Haresh Choudhary s (UNICEF) outline of the Pragma project, CEE made a presentation on the idea of *Gyansetu* Advance version and its need. The workshop also discussed the limitations of other programmes how to overcome those in the *Gyansetu* Advance version. The overall outcomes of this workshop were:

- *Gyansetu* Advance version should be initiated with higher primary classes - 6 to 8.
- The classroom design for using the screen/ tablet needs to be studied.

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- Pilot studies should be undertaken in two different schools to understand whether a screen for a group of children or individual tablet for each child is better
 - The software content should include not only science and mathematics but also other subjects like social sciences and language.

On the basis of the discussions, the software specifications will be finalised and the first draft of *Gyansetu* Advance version application will be ready to implement before the next meeting.

Hardware Procurement and Distribution at School Level: The hardware support for *Gyansetu* application has been procured by CEE and will be distributed in all the schools. The specifications for the hardware are:

- 7f Tablet with HDMI output
- 16 GB SD card
- Wireless mouse
- HDMI to Mini-HDMI cable
- 50f LED-Android TV

Resource Materials (Software and Audio visual Content)

- Material for classes 6 to 8 science and mathematics in PDF form
- Animated audio visual material for science and mathematics for classes 6 to 8
- Gujarati language material for classes 1 to 3
- A video programme developed by Gujarat Institute of Educational Technology, Ahmedabad

Project Launch Event: The project launch event was held at Samaghogha village in Mundra, where the application was presented to the villagers and MICT staff who had been engaged with the CEE team for developing the demonstration of *Gyansetu* project. The invitees of the programme included Mr. Mahendrabhai Patel, District Magistrate; Mr. D. N. Patel, Superintendent of Police, Kutch (West); District Education Officer (DEO); District Primary Education Officer (DPEO) and other local officials. The school had allotted a special classroom for the use of *Gyansetu* application. This digital classroom was inaugurated by the District Magistrate. The guests appreciated and lauded the initiatives.

Workshop on Lesson Plan for Classroom Teaching through ICT Materials: So far, the use of ICT in the classroom has been just a tool for a better teaching learning process. *Gyansetu* provides a platform to access the ICT material through Android application or a way for the teacher to directly download it from the internet. To use this effectively in the classroom, the teacher needs to design good lesson plans which will aid in the use of *Gyansetu* application and ICT materials. During the workshop, Mr. Parthesh Pandya provided a brief history of the lesson plan and its importance in classroom teaching. He also introduced the demo lesson plan to the participants. Fifteen persons from the field who are directly working with teachers and facilitating *Gyansetu* application in schools, participated in this workshop.

Teacher Feedback and Review Meeting: The first review and feedback meeting was organised with 19 teachers and two CRCs at the Block Resource Centre, Mundra. The experience of *Gyansetu* material and issues related to operating the application through

tablet were discussed in the meeting. Updates of Student Corner and Question Paper in the *Gyansetu* application were shared. Most of the teachers faced difficulties in login and logout in schools because of lower coverage of mobile network, daily routine and sometimes technical errors. But as the system has a facility to work offline, it would enable them to use it in school. Updating of the application can be done at home or nearby areas with good connectivity. Many such school wise issues resolved during the meeting. Five schools from the farming area of the village Vadi vistar shala, have been given a 50f LED TV to project ICT material provided in the tablet, but mostly the schools do not get electricity during school time. Teachers have requested the project managers to find a solution to this issue.

General Knowledge Quiz Competition: To encourage students participation in co-curricular activities and involve teachers in the project, a quiz completion for classes 4 to 8 was conducted, at the school, inter school, group (consisting of five schools each) and inter group levels. Each team consisted of three students. In all, 15 students became winners of the competition and were awarded. Teachers and CRCs took personal interest in conducting the competitions and encouraged children to participate and prepare for. The overall feedback was that the competition energised the students and teachers to move forward with the project.

Social Science Fair & Exhibition: A teacher training for Social Science fair was organised by CEE at Nilpar, Kutch, Gujarat, with 22 teachers of Khadir and Mundra blocks of Kutch district. The training included different methodologies of social science teaching and provided hands-on experience at the training.

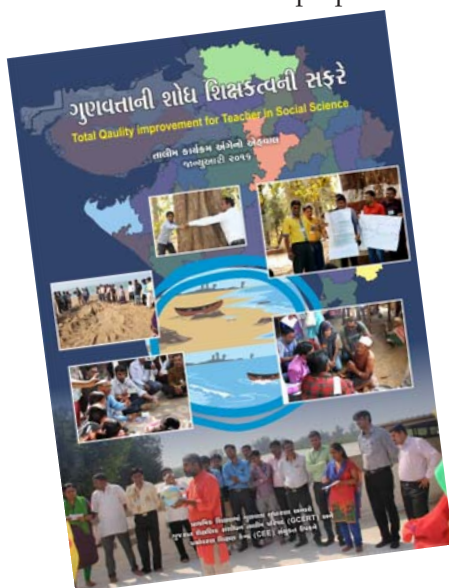
Each school then selected topics from social science like Mughal Dynasty, Function of Court, Continents of the World, etc. on which to develop an exhibition. In all, students of 30 government primary schools of Khadir and Mundra blocks developed 30 different exhibitions. The idea behind organising the social science fair was to provide a common platform for the students where they can develop a larger perspective on the subject and understand the connections between subjects like History, Civics and Geography. The fair also provided a chance for students to showcase their skills and to interact with students of other schools as well. Around 500 students, besides principals, teachers, villagers and people's representatives visited the fair and exhibition.

Animated Material Development in Local Language: *Gyansetu* is a platform for sharing ICT materials. Various kinds of animated programmes are available in the market but most of them are in English. Very little material in Gujarati is available and whatever is available is not of good quality. Whatever available material is not enough in quality. So there is a huge demand for such kind of programme. Taking the needs of the teacher into consideration and based on the difficult concepts as identified by Gujarat Council of Educational Research and Training (GCERT), a script has been developed and shared with the schools and experts for feedback, after receiving which the animation will be finalised and completed, and shared with the 183 schools in the *Gyansetu* network.

***Gyansetu* Advance:** *Gyansetu* is used by teachers for accessing the information through internet. The demand now raised is that technology should reach the end user, who is

the student. Hence the idea behind the Advance version is to make the application accessible to the students. The student version of *Gyansetu* provides for the student to learn at his/her own pace and style, and enables access from any device ~ laptop, tablet or mobile. Through individual login, students can learn the subject, do the activities provided, seek the teachers help and give the exam by their own schedule. All these can be monitored and facilitated by the teacher who can control the software. Data from students and teachers will automatically sync with the central server which can extract data and track progress.

All this requires Research and Development as well as inputs from experts like the Education Consultant of UNICEF, textbook writer, software developer team, designer and education expert from CEE and Education Department, Government of Gujarat. A lot of inputs, learnings and suggestions had come from the workshop. On this basis, the Software Requirement Specification (SRS) for the *Gyansetu* Advance is under preparation.



1.14 Guruji

Guruji is a concept for quality education implemented through teachers capacity building and use of an innovative teaching method to improve the outcome of Elementary Education through *Gyansetu* ~ a technology-aided application (described in more detail in the previous section). The project was initiated in 17 Schools of Choryasi Taluka in Surat district and was funded by Essar Foundation. The outcomes are impacted not only through hardware and software innovations, but also through a set of targeted interventions. Guruji project has since been implemented in various government primary schools in the state.

The objective of the project is to ensure quality education in the selected project schools of Hazira through:

- Providing training in various teaching learning methodologies
- Providing *Gyansetu* application for use of technology in the classroom
- Providing a platform to students to learn independently
- Providing exposure to teachers to improve their educational understanding and relevance
- Counselling the students to improve their learning and make a sustainable future

1.14.1 Key Activities of Project

It was decided to implement the project in 14 government schools and three private schools (Sanjivini, Mayurdhwaj and Sharda Vidyalay) of Choryasi taluk.

Baseline Survey: The survey was conducted in the 14 government schools and the findings were as follows.

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- Out of the total strength of 2676 students from these schools, 50.45% were boys and 49.14% girls, which matched the male-female ratio of the Block. It also indicated that there is no significant reason for dropout due to gender.
 - On the other hand, out of the total 99 teachers, only 17 were male (17.17%), while 82.82% were female.
 - The teacher-student ratio was 1:27, which is as per the Right to Education (RTE) Act norms. The highest student ratio was found in four schools ~ 1:35, while the lowest was found in five schools ~ 1:14. Schools whose strength is small in terms of number of students became multi-grade schools.
 - School Management Committees (SMCs) have a critical role to play in actualising the goals of RTE and transforming the education system itself. All the 14 schools had SMCs but they were not active and hence community involvement in the schools was low.
 - On quality of education parameter, only 10% schools used different teaching learning methodologies; all the teachers predominantly used the lecture method. Exposure visits for children were very rare.
 - While all schools had teaching learning material available, only in 20% of schools did student get opportunities to use them.
 - 80% of schools had student councils, but they did not help involve students in the decision making process and sharing of responsibilities; the councils were used only for work distribution.

Student Involvement

(i) Art and Craft: Darshak Lok Ganga (DLG) mobile unit is an activity promoted by

Lokbharati Lok Vigyan Kendra, a pioneer community science centre in the state. Under this initiative, selected schools are supported for activities based on thematic areas, the first of which is art and craft, with a view to retain student interest. An art and craft workshop was conducted in the 17 project schools in June 2015, to develop an understanding of the Guruji project.

(ii) Quiz: A quiz was conducted involving the teachers and students of all the 27 schools through an intensive planning process. One team each from grades 4-8 were selected for the quiz which was held at school, inter school, inter group (the schools were organised into four groups with four schools each) and final levels.

(iii) Bharat Darshan – A Social Science Fair: The teachers of Guruji project schools were provided training on innovative methods of teaching social science subjects, after which each school selected a topic (like Mughal dynasty, functioning of a court, continents of the world) for an exhibition. With the help of teachers, students prepared their exhibits and presented them at the exhibition during the social science fair. This experience taught the students the inter-connectedness of social science subjects like history, civics and geography, as well as provided them a platform to showcase their skills. Around 1000 students from 11 schools visited the fair, besides teachers, villagers and representatives of NGOs.

(iv) Career Counselling Workshop: After class 10 and then 12, students are faced with a dilemma of choosing a stream (Humanities, Science, Commerce) and then a graduation course, which lays the foundation of their career. The choice is based on suggestions from parents, teachers and peer group, without

taking into account the students aptitude. A scientifically designed career counseling workshop was held in three of the project schools in March 2016, in which 120 students and 15 parents participated. An aptitude and personality test was administered to the students and the report card shared with the schools. A personal counseling workshop will be organised once the board exam results are published.

Teacher/Principal Involvement

(i) Green Teacher Diploma: This is a distance education programme for in-service teachers, conducted by CEE, which addresses problems faced by teachers in handling Environmental Education (EE) sessions in the classroom. With the support of Essar Foundation, all the modules of the programme have been trans-adapted into Gujarati. Seventeen teachers from Guruji project schools ~ one teacher from each school ~ have enrolled for the programme and the first contact session was held in two parts ~ first part on July 24-25, 2015, and the second on February 23-24, 2016. The first part provided an orientation to the Green Teacher Diploma programme as well as varied teaching learning methodologies like demonstration, outdoor activities, audio visual and group work. A session was also devoted to Education for Sustainable Development (ESD). During the second part of the first contact session, approaches like field visit, audit, survey and case study were discussed, and a field trip to Dandi organised. The teachers will be awarded the diploma after they complete an action project of 4-5 months duration, take a programme end examination, attend the contact sessions, and complete a programme project.

(ii) Special Training on Social Science: As mentioned above, this was provided to

teachers from the project schools prior to the Social Science Fair. The training covered clay modeling, model making, making cut-outs, drawing and action songs.

(iii) International Conference at CEE: Mr. Vikas Patel from Essar Foundation and Mr. Ajay Shah from Sharda Vidyalaya, Ichhapor, participated in the International Conference on Education as a Driver for Sustainable Development Goals, organised by CEE at its campus in Ahmedabad during January 11-13, 2016.

(iv) Teachers Engagement through *Gyansetu* Application: *Gyansetu*, an online android based educational application and portal developed by CEE that can be accessed through any device with an android based OS, has been provided to 12 project schools (and the respective teachers) along with tablets.

Under the Gurujif Project 12 teachers (Schools) have been provided the *Gyansetu* Application along with the Tablets. Orientation training of the application was also given to each school and teacher. Continuous technical support has also been provided to the schools. An orientation programme for its use was conducted for the schools and teachers and technical support being provided as and when necessary.

1.15 Mobile Educational Exhibition Materials Development and Training Programme

This is a project supported by Lokvigyan Kendra (Community Science Centre) of Lokbharati, Sanosara, under their Darshak Lokganga project funded by Pidilite Industries Pvt. Ltd., in which CEE is developing theme based exhibition materials and activity kits based on the syllabus of classes 6-8.



Mobile material development and training

The objectives of the training programme were to enable the participants to conduct a range of activities that can help children understand concepts dealt with in their school subjects and relate it to the real world, as well as to obtain feedback on the previous round of training and plan for the next. The training process ensured that the theme of each round is correlated to the classroom subjects and topics. The participants were provided hands-on experiences, both in conducting activities and utilising local materials for the activities. Samples of material were provided by partner organisations.

The following are the partner organizations for the project:

1. Ananddhara, Chaparda, Junagadh
2. Gram Nirman Samaj, Mahua, Bhavnagar
3. Gram Dakshina Murti, Manar, Bhavnagar
4. Lokbharti Vigyan Kendra, Sanosara, Bhavnagar
5. Lokbharti Adhyapan Mandir, Sanosara, Bhavnagar
6. Ravi Krupa Trust, Maydhar, Bhavnagar
7. Vigyan Nagari, Bhavnagar

8. Shree Hiralal Trust, Dholaka, Ahmedabad

9. Bhaibandh Project, Khadir, Kutch

10. Mari Shala Rajpur, Gandhinagar

11. Bilpudi, Dharampur, Valsad

12. Gyansetu Project, Mundra, Kutch

The round wise material developed as part of the project are for the subjects mentioned in the table below.

Round No.	Subject
1	Social Science
2	General knowledge
3	Science
4	Environment Science
5	Language
6	Life skill
7	Mathematics
8	Traditional Games

1.16 Indradhanush Mela: “Shiksha Ke Saat Rang” 2016

Indradhanush aims at providing teachers and children a unique experience that will open new pathways towards alternative learning methodologies. It is Essar Foundation's flagship programme for promoting child-friendly education and activity-based learning, seeking to transform approaches and methodology to make seemingly tough subjects interesting.

The programme provides intensive teachers training in activity-based learning using methods like theatre, storytelling, music, art and digital learning, culminating in a two day edufest that provides a platform to showcase

the performances and projects co-created by students and teachers. Several organisations are also invited to this edufest and they hold workshops for more than 3,000 students and about 100 teachers.

Indradhanush is into its fifth year at Vadinar, Gujarat, and children and teachers from 32 government and aided schools from 18 villages of Jamnagar and Devbhumi Dwarka districts participated. CEE was the knowledge partner for the project this year, and brought to the table its expertise in environment games and activities, and experiential learning in biodiversity and ecology, including marine. The focus themes for 2016 were Wonder of Our Universe (Astronomy)^f and Life forms of our planet (Biodiversity)^f. The key approaches during the Indradhanush Mela 2016 were storytelling, games, films, sciences, models, planetarium, interactive workshops, interaction with Astronomy and Biodiversity experts, and 3D film screening.

Resource organizations/persons include:

- Shri O. V. Sheth Community Science Centre (OVSRCSC), Rajkot
- Ankur Hobby Centre, Ahmedabad
- Lok Mitra, Rajkot
- Mari Shala, Rajpur, Gandhinagar
- Lok Bharti Adhyapan Mandir, (Primary Teachers Training College), Bhavnagar
- Katha, New Delhi
- Adhyayan ~ Institute for Innovative Learning, Mumbai
- S. M. Graphics & Educational Kits, Vadodara
- Green the Blue Charitable Trust, Vadodara

- Dr. J J Rawal for Interactive session on Astronomy

Teacher s training for co-creating science models

A two day pre-Indradhanush training was conducted by CEE for science teachers to deliberate on ideas and concepts around Astronomy and Biodiversity, the focus themes for the year. About 18 teachers from 20 primary schools of Essar Foundation s target villages actively participated to make simple but attractive learning aids from easily available resources like paper and clay. Teachers worked with students on a particular idea to co-create models, which ranged from working models on the phases of the moon to organic pesticide to a presentation on marine biodiversity. These models were showcased at the science model exhibition during *Indradhanush Mela 2016*.



Indradhanush Children participation

1.17 Child Friendly Schools and Systems Project in Vaishali, Bihar

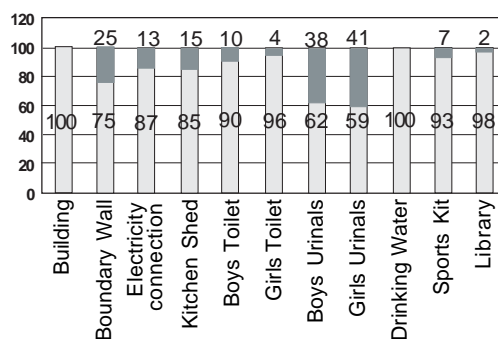
Provision of quality education along with safe drinking water and sanitation facilities have been broadly envisaged in the Constitution under Article 21-A free and compulsory education of all children in the age group of six to fourteen years as a Fundamental Right^f and specifically notified in the RTE Act, 2009. In Bihar, CEE has partnered with UNICEF and Bihar Education Project Council (BEPC) to promote Child Friendly Schools and Systems (CFSS) in 100 schools of Vaishali district. This initiative focuses on the demonstration of 'Swachh Vidyalaya -Swasth Vidyalaya' education, ensuring a set of functional and well maintained water, sanitation and hygiene facilities, along with improvement in the school s overall teaching learning environment, thereby making it a 'child friendly learning' space. It is also envisaged that similar models will be developed in all the districts of Bihar with the help of BEPC using the inputs from UNICEF s and CEE s work in Vaishali.

CFSS covers child friendly quality education system, activity based learning, proper functioning of SMC, MTA, Child Cabinet and Meena Manch, with clean and green environment in the school, proper sanitation and hygiene practices by students and safe and nutritious mid day meal. School sanitation and hygiene depends on a process of capacity enhancement of teachers, community members, SMCs, Non-Governmental Organisations (NGOs), Community Based Organisations (CBOs) and education administrators.

The programme was initiated in October and the following activities were carried out till March 2016.

Team Selection, Induction and Setup of Field Office: A project team of four members has been constituted for the implementation of the project and provided two short term induction programmes during October 2016, one at CEE's Lucknow office and the other at CEE's North East Office in Guwahati. The induction process consisted of sessions on RTE Act, status of education in Bihar, orientation on various stakeholders involved in the education system in Bihar and capacity building sessions. Exposure visits were also organised for the team to familiarise them with similar initiatives undertaken at Guwahati. A field office of CEE has been set up at Vaishali with the project team started functioning from it.

Baseline Survey and Assessment Report: To get a clear picture of the project schools and to design the interventions, CEE team developed a survey format with inputs from UNICEF, and conducted a baseline survey of the 100 schools during Nov. -Dec. 2015. The survey tried to cover various aspects such as current status of WASH elements in the school, cleanliness, the status of hygiene and sanitation, functioning of Meena Munch and Baal Sansad, and of SMC, present status of teaching learning methodologies and status of the environment of the school. The baseline survey has been useful to assess the status of a school, identify inputs required for each and assess the progress of the project from time to time.



Sensitisation Meeting: Sensitisation meeting is an important step in the implementation of the Swachh Vidyalaya - Swastha Vidyalaya project as it is the first opportunity to interact with the SMC, Student Council and Meena Manch members on one platform; build a rapport with the community and elicit their participation. It also provides the opportunity to introduce the project to the stakeholders, their role and their importance in making this intervention a success.

Sensitisation meetings for each school were fixed in consultation with the District Programme Officer, SSA, Vaishali, and 39 nine such meetings organised in schools during December 2015 to March 2016.

Orientation Meetings: During January-March 2016, 22 orientation meetings were organised in the project schools of Vaishali. Interactive discussions and group work were the methodologies used in this exercise. Participants were divided into four groups and each discussed a topic and came up with a presentation. The group work involved discussions such as action taken by members currently and those that need to be taken in future for better implementation of CFSS in their school. These meetings invoked an increased involvement of SMC members and teachers in CFSS initiatives.

District Level Sharing Meetings: In March 2016, a district level sharing meeting for different stakeholders of the district education department was organised at the District Institute of Education and Training (DIET), Vaishali. The objective of this sharing meeting was to present the findings of the baseline survey conducted in the 100 schools to the Block Resource Persons (BRPs) and Cluster Resource Centres (CRCs). The meeting also

helped to introduce the project, the road map of initiatives to be implemented and to garner support of the block level officials and teachers. More than 40 district and block level officials attended this meeting.

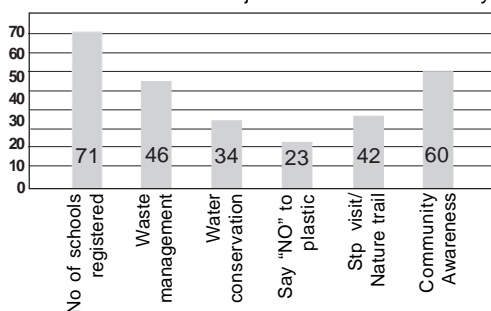
IEC Material Development: IEC material development is an integral part of the CFSS initiative, as its proper use will lead to establishing and creating new standards in teaching learning initiatives leading to making schools child friendly. During December 2016, a project brochure in English and Hindi meant for various stakeholders of the project and a year planner for dissemination at the state level have been designed, developed and circulated among schools and other stakeholders. More material is planned to be developed as the project progresses.

1.18 Clean Hussain Sagar Campaign (HSL)

CEE Andhra Pradesh (SP) implemented the Clean Hussain Sagar Campaign with the support of the Hyderabad Metropolitan Development Authority (HMDA) in 70 schools located in the HMDA jurisdiction. The objective is to create awareness among the students on the importance of lakes in urban areas in general, and Hussain Sagar in particular, focusing on four themes: Importance of Lakes in Hyderabad, Hussain Sagar Lake and its Environs, Issues and Concerns, Solid Waste Management (SWM) in school premises and Impact of using Plastics (plastic carry bags). A one day training programme was organised for 75 teaches to orient them on issues related to plastic carry bags, waste management and water management, in connection with Hussain Sagar Lake. These teachers are expected to develop and implement action plans with HSL Clubs.

Outcomes of the HSL Programme: Graph 1 shows the activities taken up by the HSL Clubs in their schools. Most of the schools have implemented solid waste management action plans; 23 schools have declared their campus to be Plastic Free Zones⁶; and all enrolled schools have participated in community awareness campaigns.

Overview of the HSL Project 2015–16 academic years



Graph 1: Overview of the HSL Project 2015 ~ 16 academic years

Based on the reports submitted by the schools and evaluation (field) visits to schools, and activity wise analysis has been carried out to estimate the impact of the HSL Awareness Campaign under each theme for 10 months. The details are given in the table.

#	Proposed Action Plan	Quantity / 10 Months
1	Schools Registered HSL Clubs Membership	71 20 x 71 = 1420 students
2	Waste Management Waste Segregated Waste Composted	2471.14 kg 1085.71 kg
3	Water Management Water harvested Waste water diverted to plants	23328.57 litre 15528.57 litre

4	Plastic Management Plastic recycled Plastic ban in schools	870.85 kgs 17 schools
5	Lake Study	6 schools
6	Eco Friendly Ganesh Chaturthi	49
7	Community Awareness Rally	71 Schools

An annual event was organised on March 22 to mark World Water Day in Sanjeeviah Park. Around 400 students participated in the event and 15 schools were awarded Best HSL School for the year 2015-16.

CEE Hyderabad office won the Runner-up Award for Excellence in Solid Waste Management from J.C. Bamford Excavators Limited (JCB) and Confederation of Indian Industry (CII).

1.19 Urja Chetana: An Environment Sustainability Education Programme in Schools of Kolkata and Nearby Districts

The Waste Management Group at CEE Kolkata is implementing the Urja Chetana programme in 30 schools, in and around Kolkata. The initiative is supported by the Calcutta Electric Supply Corporation (CESC) under their CSR programme.

The Urja Chetana programme seeks to generate awareness and action on various aspects of environment amongst students, who would carry the learnings to their communities. This programme also aims to provide a platform for the schools to undertake action projects through community outreach and help children share and expand their

understanding, and thereby bring about environmental change.

Under the programme, apart from forming eco-clubs, students conducted energy and waste audits to understand consumption patterns and thereby implement strategies for their reduction. Hands-on workshops on composting, waste paper recycling, product development, rain water harvesting and medicinal plant garden were conducted to build the capacity of students and teachers, to enable them to implement these best practices in school, and to comprehend environmental sustainability. Exposure trips to a thermal power station, medicinal plant garden and waste polybag recycling unit were organised to complement classroom learning with practical demonstration. Students undertook varied outreach campaigns and celebrated special environment days to share information on environmental conservation and sustainability to the nearby communities. They did wall art on the school boundary portraying environmental messages to the nearby community and protecting the premises from nuisance creating activities. Around 505 students participated in these programmes and made an effort to bring a difference to the society in general. Their creative and lateral thinking skills were tested through activities such as share your bright idea, create a poster, wall magazine and best out of waste. A Green Deed a Day activity was able to reach out to 315 students and their parents from seven schools. The activity focuses on thirteen best practices that could be adopted by a student. Students have submitted photos to CEE to validate their efforts. The project has directly impacted 3400 students, and indirectly around 7300 students. About 45 teachers were trained and around 7700 community members were engaged with the activity during this year.

The capacity building workshops and regular guidance have thus empowered the schools to practically implement composting, waste paper recycling and rainwater harvesting on their premises. The quantity of waste recycled or rain water harvested is analysed for estimating the approximate quantity of carbon dioxide equivalent of emissions avoided by practising such environment friendly activities in the schools.

Practices	Quantity recycled (2015-16)	Equivalent kg of carbon dioxide emissions avoided to be released in environment*
Organic Waste Composting	137.5 kg	61.875
Waste Paper Recycling	43 kg	30.1
Rain Water Harvesting	12645.854 litres	21.5

* Using the CO₂ e saving emission factor

1.20 EE for Children - Bangalore

CEE Karnataka initiated a programme titled Nature as a classroom with The Foundation School, Bangalore to introduce primary school students (classes 1 to 5) to the local biodiversity and demonstrate hands-on activities on nature. The aim was to enhance experiential learning and allow the children to experience the outdoors and motivate them to appreciate the environment. This activity was conducted twice a month over a period of three months. A hands-on activity manual was developed for the programme, in which five teachers and 65 students were involved.

1.21 Nature Education Programme - Karnataka

CEE Karnataka, in collaboration with the state's Forest Department, conducted nature camps for rural school children under the Chinnara Vana Darshana (Taking Children to Forests) programme for students of class 9 of Government School, at Honnavar, Kodagu, Kumta and Nagarhole Tiger Reserve, with an aim to sensitise them on nature, forests, wildlife and conservation. As part of this programme, nearly 400 students in five batches were addressed. The approaches followed in this programme involved learning through interpretative games; discovery of the forest around; interactive sessions on forest and wildlife related topics followed by hands-on activities; and screening of wildlife related documentaries. The teachers and the forest department officials also interacted with CEE.



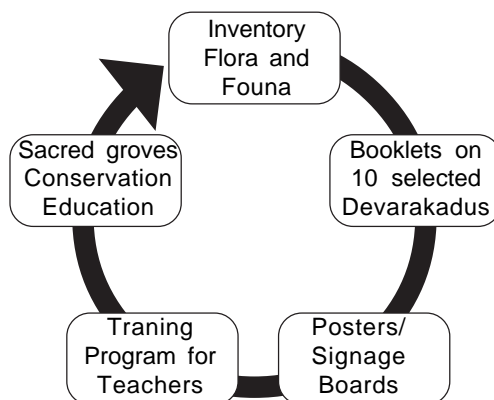
Rural Nature Camp as part of Chinnara Vana Darshana

1.22 Nature Education Programme on Sacred Groves in Rural Schools of Kodagu

CEE Karnataka, in collaboration with the Forest Department of Kodagu, organised Nature Education Programme on the Sacred

Groves of Kodagu. The aim was to sensitise teachers and students of rural schools situated around 10 selected sacred groves, about their uniqueness and value. As part of this programme, participants were made to explore the surrounding sacred grove; sessions were conducted on their importance, followed by hands-on activities. In all, 15 teachers were trained, and 10 nature camps for rural school children at 10 sacred groves were conducted, covering 301 students.

As part of this initiative, 10 booklets on sacred groves were developed with detailed inventory of flora and fauna. Four posters on the importance of sacred groves were also developed for school children and the public.



Nature Camp at Sacred Groves

1.23 National Nature Camping Programme - Assam

The aim of this project is to create greater awareness, understanding and empathy in children for the environment. The objectives include: sensitization towards nature conservation; understanding the basic science of nature; understanding the concepts of food chain and food web in the camp area; understanding the balance in nature and the basics of ecosystem services; and motivating students to protect nature by planting trees, preventing hunting and educating others.

A series of five camps were held from January 30 to February 9 at Prabhat Mela Camp Site, Majorpaara at Bolbola in Goalpara district. Students from Kalyanpur High School, P.R Government High School, Dolgoma High School, Krishnai Madrassa High School and Kalaguru Bishnu Rabha High School took part in these camps.

Located at the foothills of Fofonga Reserve Forest, the site witnessed a plethora of activities as part of the camps. Mini dramas, night forest trail, field inspection, campus mapping, Joy of Science activities, reserve forest visit, night sky study, cultural activities and a variety of environmental games were conducted as part of the activities.

About 100 students were sensitised about nature conservation through visits to Fofonga Reserve Forest and Urpada Beel (wetland). Through environmental games and activities, various environmental concepts were also transacted.

1.24 Srushti Mitra Awards

The Srushti Mitra Awards have been instituted by the Environment Department, Government of Maharashtra, to recognise and acknowledge

the environmental action projects undertaken by school and college students and to promote environmental awareness among them and encourage them to take up actions to benefit the environment. CEE coordinates the Award process on behalf of the Environment Department, to define the awards categories, branding and publicity of the award programme throughout the state, encouraging and showcasing the winning entries through the Awards Ceremony, setting up an exhibition and the Awards Souvenir which presents the work done by the awardees.

In the period under report, the entries received in various categories of the Award were scrutinised. A panel of experts was set up to assess the shortlisted entries and make recommendations for the awards in each category. Subsequent activities include preparation of the Srushti Mitra souvenir and an exhibit based on the award winning entries, and the preparation of the award certificates.

1.25 Environment Service Scheme

CEE is the nodal agency for the Environment Service Scheme (ESS) of the Government of Maharashtra Environment Department. ESS schools investigate local issues and prepare a village environment report, which they present to the Gram Sabha. With the involvement of the local community, schools are taking up projects such as composting, recycling, rainwater harvesting, plantation, changing to LED lamps and others. The scheme is currently being implemented in about 70 schools in 12 districts of Maharashtra, i.e. Nagpur, Chandrapur, Amravati, Yavatmal, Jalna, Aurangabad, Jalgaon, Nashik, Pune, Solapur, Ratnagiri and Thane.

This year, a new approach has been developed in which students study environmental issues in their village or town and prepare a local

area environment status report. The report is then presented to the Gram Sabha or village community. With the advice and support of the parents and community, schools take up appropriate action projects in line with the issues identified. The ESS team conceptualised this approach and discussed it in the ESS teachers orientation workshops. With the teachers inputs, the approach was finalised and implemented in thirty schools. Later in the year, a review meeting was conducted with the Environment Department.

1.26 Science Exhibition at the State Level Children's Science Congress in Rampur, Shimla

CEE Himalaya was invited by Himachal Pradesh State Council for Science, Technology and Environment to participate in the Children's Science Congress organised at Rampur during December 14-17, 2015.

CEE Himalaya participated in the event under the mandate of Supporting Science Express Climate Action Special (SECAS) in the Indian Himalayan Region awarded by Climate Change Division (CCD) of Swiss Agency for Development and Cooperation (SDC) under its Indian Himalayas Climate Adaptation Programme (IHCAP) for the period of October 9, 2015 to December 31, 2015.

At the event, CEE Himalaya put up an exhibition on SECAS, which did not visit the city, and on climate change issues specific to the Indian Himalayan Region. The content inside the train was converted into portable standees, games and other IEC material. Twenty bilingual standees were developed to communicate the information in an effective way and to reduce the language barrier. Science kits were also displayed at the exhibition to demonstrate climate change through experiments.

Information on Globe, North Pole & South Pole, Equators, Jet Wave, Equinox Line, Earth Rotation and Revolution, Earth's Axis & Tilt, Seasons Change, Climate Change and its Impact on Earth, Information on Science Laws (like Bernoulli's Law), Centre of Mass, and Centre of Gravity was imparted to students using science kits and display of standees. Around 3367 students and 73 teachers were addressed through the event.

The exhibition stall of CEE Himalaya was one of the best stalls at the Children's Science Congress and it was highly appreciated by the Chief Secretary Mr. P. C. Dhiman.

1.27 Green-Me Programme

Green-Me is a thematic environment education programme implemented as a CSR programme in association with Toyota Kirloskar Motor Private Limited. Programme themes include Biodiversity, Waste, Water, Climate Change and Community Initiatives. The programme primarily targets higher primary school children from government schools in Bidadi Hobli. Twenty schools were selected for the programme implementation in 2015. The programme was launched in November 2015 and by March, its implementation in schools was assessed and the best schools and teachers awarded.



Nature walk in jungle

Table: Reach Out Summary

Date	Location	Participant School	Reach Out		Total Reach Out	Activities conducted
			Students	Teachers		
14.12.2015	P.G.S.S.S Rampur	P.G.S.S.S Rampur	500	14	514	Information on Globe, North Pole & South Pole, Equators, Jet Wave, Equinox Line, Earth Rotation and Revolution,
		C.T.S Kullu	130	2	132	
		D.A.V Manali	200	2	202	
		G.H.S Dhalwari	20	2	22	
		G.G.S.S Rampur	235	4	239	
15.12.2013	P.G.S.S.S Rampur	P.G.S.S.S Rampur	200	12	212	Earth s Axis & Tilt, Seasons change, Climate change and its Impact on Earth, Information on Science Laws like- Bernoulli s Law, Centre of Mass, Centre of Gravity etc., Display of Standees and Discussion on them.
		Spring Day Public School Rampur	100	4	104	
		G.P.S Rampur	130	2	132	
		G.G.S.S. Rampur	280	2	282	
		Sun Shine School Brow	148	2	150	
16.12.2015	P.G.S.S.S Rampur	G.S.S Nogli	134	3	137	
		P.G.S.S. Rampur	100	4	104	
		Him Spring Dale Rampur	285	4	289	
		Raj Kids Palace Public School, Rampur	130	4	134	
17.12.2015	P.G.S.S.S Rampur	G.G.S.S Nogli	250	4	254	
		Sun Shine Public School Rampur	400	2	402	
		Him Spring Dale Rampur	48	2	50	
		Little Flower Public School Brow	77	4	81	
Total			3367	73	3440	

(P.G.S.S.S - Padam Government Senior Secondary School; DAV - Dayanand Anglo Vedic; GHS- Government High School; GGSS - Government Girls Senior Secondary; GPS - Government Primary School; GSS - Government Senior Secondary)

Higher Education

2.1 Journal of Education for Sustainable Development (JESD)

JESD is a peer reviewed international academic journal published by SAGE twice a year. It is being managed and edited by CEE Australia since 2012. It provides a platform for presenting research, debating ideas and showcasing success stories in the emergent field of ESD.

During the current year, two issues ~ 9.1 and 9.2 - were brought out as per schedule. Issue 9.1 carried a special section edited by UNESCO on the UNDESD titled, **End of the Decade: Reflections and the Way Forward**. It was focused on Education for Sustainable Development (ESD) and Climate Change Education (CCE). Besides articles on this topic, the section also included status reports on policy for the same from three countries ~ Brazil, China and Republic of Korea.

2.2 Regional Centres of Expertise (RCEs) – Lucknow

RCE Lucknow, in partnership with eight organisations, established a network of RCE on ESD in Lucknow. The key areas of action of RCE Lucknow are biodiversity conservation and school education programmes. The target groups for these activities are students, teachers, NGOs, communities, youth and others.

CEE North, as the nodal point for RCE Lucknow, has initiated several ESD activities with its RCE partners in the region. Some of these activities are:

- School events based on various environment related themes were

organised where students and teachers from schools of Lucknow participated.

- A biodiversity focused ESD initiative ~ a bus ~ is being undertaken in Uttar Pradesh with the help of formal education Institutions like University of Lucknow and non-formal education institutions like UP State Biodiversity Board, Education and Forest Departments, schools, a scientific institution, Lucknow Zoo and others. This bus is taken to various schools and community locations to create awareness about the rich biodiversity of Uttar Pradesh.
- A student from Tata Institute of Social Sciences (TISS) joined CEE North as an intern during the year and worked on various ongoing programmes.

2.2.1 Roundtable Meeting on Air Pollution

In November 2015, a round table meeting of stakeholders was organised by CEE North in association with the United States (US) Embassy, New Delhi, at the Regional Science City, Aliganj, Lucknow. The meeting aimed to bring together NGOs and individuals concerned with air quality and climate change. Over 30-35 participants attended the discussion. CEE North Coordinator spoke about the role of education and communication in creating public awareness for reducing air pollution, especially vehicular pollution. The representative from Science City shared how an understanding of the science of air pollution could help in demonstrating its effect on people, plants and materials. The Assistant Cultural Affairs Officer of US Embassy set the background for the meeting and introduced the expert speaker Mr. Mathew Scott Petersen, Chief Sustainability Officer from Los Angeles. Mr. Petersen addressed the gathering and

shared various ways through which air quality and climate change challenges are being tackled. He hoped that this sharing would help a developing country like India learn lessons from such experiences and also adopt them. The meeting was thrown open for discussion subsequently during which the participants interacted with the experts and sought clarifications.

2.3 Courses Conducted

2.3.1 Environmental Studies Course at the Ahmedabad University

CEE offered the Compulsory Environmental Studies course in the Monsoon and Winter semesters of the Institute of Engineering and Technology, Ahmedabad University. The course involved 45 sessions covering the basic concepts of environment and sustainable development, along thematic areas, through theory inputs, activities, outdoor sessions and projects. The course was taken up by 240 first year students from Mechanical, Chemical and Information and Communication Technology

divisions of the institute. CEE provided reading notes and reference material links for the students.

2.3.2 Course for PVP College of Architecture, Pune

A course titled Social Research for Participatory Design was developed and conducted for the PVP College of Architecture. CEE staff prepared the course description and curriculum, and also conducted the course and carried out the student assessments, in discussion with the college faculty. The topics included Why participation, advantages and challenges, considerations in designing participation, research to inform participatory design, tools to enable participation, monitoring and assessing participation. The impetus for development of such a course came from the mutual interest of the PVP College of Architecture and CEE to strengthen participatory design in architecture, urban design and planning, especially in the context of the Streets for People activities undertaken jointly over the last few years.

Education for Youth

3.1 South Asia Youth Environment Network (SAYEN)

SAYEN initiatives during the year focused on engaging youth in sustainability action on their campuses and in the community, and fostering new and strengthening on-going partnerships. SAYEN Secretariat supported the youth events organised at the Indian Institute of Technology (IIT) Kharagpur, IIT Mumbai and Birla Institute of Technology and Science (BITS) Goa and participated as judge in the environment section at IIT Kharagpur. CEE continues to receive interns and the SAYEN Secretariat facilitates the process of placement of interns within CEE.

3.1 Handprint Challenge Awards 2014 – Felicitation of the Winners

The South Asia Youth Environment Network felicitated the winners of the Handprint Challenge 2014, in an award ceremony in Ahmedabad, held as a two day event at CEE on February 24-25, 2015. Youth from nine countries from Asia and the Pacific region had taken part in the Handprint Challenge 2014, an initiative engaging university students in sustainability action on and outside their campus. The final round of the Challenge had 19 teams competing for the top five positions. The Challenge, in its first year, involved over 2500 students and more than 500 volunteers during the 90 days of implementing their action projects. The winning projects included creation of a Butterfly Park, developing waste collection and composting systems in the campus and in the community, and developing a youth managed organisation to focus on sustainable consumption issues.

The award ceremony included a two day workshop to share achievements, challenges and learnings by youth with others participating in the campaign. They were joined by Ms. Satwant Kaur, Regional Information Officer, United Nations Environment Programme ~ Regional Office for Asia Pacific (UNEP ROAP), who gave away the awards and inaugurated the exhibition featuring the work done by the 19 teams during the challenge.

The participants also visited St. Xavier's College campus in Ahmedabad, one of the winners, to see the work done by them. Youth participants discussed and developed an action plan to be used as a reference point for the next Handprint Challenge.

3.2 South Asia Youth Environment Conclave

The South Asia Youth Environment Conclave was organised by the American Centre, Earth Day Network ~ India, Centre for Environment Education (CEE) and the South Asia Youth Environment Network (SAYEN) at the American Centre, New Delhi on September 29-30, 2015, with the aim to engage, empower and encourage youth with an interest in and working on spreading awareness through action about sustainability issues like climate change in their college and community.

The Conclave saw participation from over 70 youth from Bangladesh, Bhutan, India, Nepal and Sri Lanka. As a part of the process to engage young people in local action, the Conclave was preceded by a campaign seeking proposals on action projects which the youth would undertake. More than 200 youth applied with proposals of action projects. An international jury consisting of representatives

from all the organising partners shortlisted the finalists based on their reports of the implementation of proposals. About 100 participants representing five countries, 22 Indian states and the host city, New Delhi, participated in the Conclave, sharing their work with each other, networking and strategising on how to take their work forward.

The Conclave, over two days, provided ample opportunity for the participants to put up their work in an exhibition, discuss their work in thematic working groups, and find synergies. Their projects were organised around ten themes, namely: Awareness in Campus, Awareness in Communities, Communication, Cleaning Up, Energy Management, Natural Resource Management, Planting, Protecting Biodiversity, Recycling and Waste Management. They had the opportunity to meet and interact with subject experts, and listen to informative sessions on Climate Change and Sustainability by Mr. Stewart Davis, Energy Officer, US Embassy, New Delhi; and Mr. Kartikeya V. Sarabhai, Director, CEE. Ms. Emily B. White, American Center Director; Ms. Karuna A Singh, Country Director-India, Earth Day Network; and Ms. Madhavi Joshi, Programme Director, CEE, also addressed the participants.

3.3 Young Reporters for Environment – India

CEE is a partner to the Foundation for Environmental Education (FEE) and has been organising the Young Reporters for Environment (YRE) ~ India activities since November 2014. This is designed as a national contest for students in the age group of 11 to 21 years. The contest was conducted in the first quarter of 2015 for college students, through the South Asia Youth Environment Network (SAYEN) website as well as the YRE-

India Facebook page, created for the programme in India.

The first edition of the contest received over 100 entries from young students across various cities. The social media campaign was also well received, with the Facebook page having close to 500 likes now with engaging content being shared regularly. The winners from the first year, apart from receiving certificates, also got the opportunity to attend the International Conference on the role of Education as a Driver for Sustainable Development Goals. Mr. Jainil Shah, one of the winners from Ahmedabad, Gujarat shared a report on the event and his experience during the conference.

3.4 Youth Empowerment Workshop at the International ESD Conference

A workshop focusing on the role of education to enable youth to significantly contribute in achieving Sustainable Development Goals (SDGs), was organised by SAYEN with support from the Rajiv Gandhi National Institute for Youth Development and Quest Alliance. Over a 100 youth participated in this workshop where they shared and learnt from each other.

The key speakers at the panel discussion on Role of Education in Youth Empowermentf included Dr. Ian Humphreys, CEO, Keep Northern Ireland Beautiful; Dr. P. Sivakumar, Faculty, Department of Development Studies, Rajiv Gandhi National Institute of Youth Development (RGNIYD), Ministry of Youth Affairs and Sports, Government of India; Mr. Martand Shardul, Representative for South-Asia at Y-Assembly of UN Sustainable T Development Solutions Network & Associate Fellow, The Energy and Resources Institute

(TERI), New Delhi; Ms. Sarah Dobson Coordinator of Youth Projects, Earth Charter International; and Ms. Carel D'Souza, Quest Alliance.

The panel discussion highlighted the critical role of youth as catalysts in helping achieve the SDGs and the pressing need to empower youth and build their capacities for the same. Ideas about creation of value systems, open spaces, forums, workshops and platforms were broadly touched upon along with interactions on questions ranging from involvement of youth in policy making to joining bureaucracy and the role of government in providing a roadmap for the youth of its country. Participants discussed and presented their views on the connection of youth empowerment with SDGs and the way youth can be empowered to make their voices heard in the process of decision making.

The second day of the workshop was focused on entrepreneurship and employment generation. Two young entrepreneurs, Mr. Abhishek Doshi and Mr. Yash Shah, Founders, Girdle, made presentations and gave insights into the life of an entrepreneur and how rewarding as well as difficult it can be. They also answered pertinent questions relating to the growing start-up culture in India, the fundraising methods as well issues about sustainability and mentoring.

The ensuing working group sessions then required the participants to identify an existing gap, potential, opportunity or a problem and chart out a start-up based on the findings. Intense discussions and lively moderation ensured that the participants had a challenging time proposing a good business plan. A framework of the start-up ideas was drawn and issues like revenue streams, fund raising, objectives, value propositions, target

audience and brand positioning were discussed at length and detailed presentations were made through the day, which ended with 10 start-up ideas.

On the third and final day of the workshop, success stories of youth across the world were shared with the participants in order to inspire them to undertake concrete actions and apply the learnings of the conference in their day-to-day life. The outcome document developed over the three days of the workshop aimed at sharing thoughts, opinions, suggestions and ideas of the participants which they felt were important to understand in the context of youth empowerment.

3.5 Yuva Samvaad – Regional Consultations on Sustainable Development and Youth Empowerment for Marginalised Youth, March 2016

Centre for Environment Education (CEE) and South Asia Youth Environment Network (SAYEN), supported by Rajiv Gandhi National Institute of Youth Development (RGNIYD), hosted 300 youth in **Yuva Samvaad ~ Regional Consultations on Sustainable Development and Youth Empowerment for Marginalised Youth**. The consultations were held in a series starting at Lucknow (Uttar Pradesh) on March 11, Ahmedabad (Gujarat) March 29 and lastly at Bhagalpur (Bihar) on March 30. This was an effort to bring out and address major concerns of marginalised youth in these states and also discuss youth empowerment, especially skill development and entrepreneurship, and how this can be useful in bringing about Sustainable Development for society at large.

Experts and practitioners who chaired the opening panels of the consultations included: Mr. Arvind Kumar, Action Aid; Shri Nand Kishore More, Ambedkar University; Mr. Prakash Solanki, Faculty at Entrepreneurship Development Institute (EDI); Mr. K G Patel, Principal Industrial Training Institute (ITI), Kurnagur; Prof. Dr. Sunil Kumar Chaudhary, H.O.D Botany Department, Bhagalpur University; Dr. Tapan Kumar Ghosh, Zoology Department, Bhagalpur University; Prakash Kumar Gupta and Dr. Vibhu Rai, Deputy Director, Global Environmental Organisation.

The panelists shared their views on issues of eradicating injustice and the various dimensions that prevent participation of marginalised communities in mainstream occupations. They also shared positive stories and case studies that promoted entrepreneurship and sustainable development.

CEE made presentations on the concept of Sustainable Development and opportunities for youth in engaging with the local, national and international processes for sustainable development. The team also talked about skill development and opportunities existing in the form of programmes and schemes offered by the Government of India.

Youth participants discussed opportunities and challenges experienced by them in areas such as Understanding of Sustainable Development, Skill Development, Eco Entrepreneurship, Green Skills, government schemes and support mechanisms available for skill development.

Education for All ~ inclusive and accessible, access to information technology, funding support and information on existing schemes and policy for skill development and youth

empowerment were some of the key suggestions from the youth. The need to revise existing pedagogy and integrate mechanisms that promote green skills important suggestions that came from them. They also suggested that enhancing competencies and soft skills such as communication and computer literacy should be prioritised at skill training centres.

Internships

About 160 youth had the opportunity to undertake internship at different CEE offices. The internships ranged from a month to a year, with a peak in internship placements during summer.

In Pune, 17 interns and 13 volunteers worked with the CEE team on various projects like Participatory Urban Governance, Bus Rapid Transit System, Cycle Plan and Small Grants Programme, for periods ranging from three to eight weeks.



Youth presenting their proposed Handprint initiative

Experiencing Nature

4.1 Sundarvan – A Nature Discovery Centre

Sundarvan, established in Ahmedabad in 1978, is popularly known for its snake rescue and snake awareness programmes. The facility is recognised as a Mini Zoo by the Central Zoo Authority of India.

Sundarvan received 79,409 visitors, including 31,108 (39.2%) children and 48,301 adults during the period. A total of 11,478 students and 1,682 teachers from 135 schools visited during this year.

Reptile Awareness Programmes was conducted for park visitors on every Sunday. It was carried out for 32 schools on other days, in which about 1,798 students and teachers participated. A seven day snake survey and awareness programme was conducted for Sonadih Cement Plant of Lafarge India Limited, located in Chhattisgarh. Around 850 people of different age groups attended the awareness programme at Sonadih. Apart from this, half day snake awareness programmes were conducted for Central Investigation and Security Services and Krishna Kautex Pvt. Ltd., Viramgam, during this period.

Sundarvan's activities with children act as a catalyst and stimulate the process of inquiry into nature. Sixteen half day activities were carried out for students from different schools to enhance their classroom learning.

4.1.1 Events and Activities at Sundarvan

On July 4-5, 2015, Sundarvan and Gujarat Council on Science & Technology (GUJCOST) welcomed the monsoons by organising a two day Odonate Workshop to increase awareness about the amazing world of the lesser

charismatic species, namely, dragonflies and damselflies. Participation was restricted through prior registration. The workshop focussed on learning about these stunning insects, their photography, a field visit to Thol lake, monitoring, discussions and more. A group of 40 participants from different fields including school and college students made the workshop very interesting.

The odonate workshop was again conducted for over 60 students each from St. Kabir School, Ahmedabad and Prarthana Global School, Modasa, on August 2 and 3, 2015 respectively.

An Indian Amphibian Photo Exhibition was also held on the above dates for the park visitors. India is home to about 350 species of amphibians, of which the exhibition showcased a wide variety. Information such as common names of the amphibians, diversity, life cycle and threats to amphibians were provided to the visitors. David Raju, a naturalist and an award winning photographer was the resource person who conducted the photo exhibition and workshop. As an outcome of the workshop, the team at Sundarvan distributed a booklet on introduction to dragonflies and damselflies for beginners. Along with this, Sundarvan has also started an informal Dragonflies of Gujarat group on Facebook which is aimed to encourage young naturalists as well as for documentation.

Young explorers of 7-13 years participated in two separate batches of six day summer workshops, which included learning about nature through art as well as a night camp to learn about the nocturnal life that comes alive in the dark. Activities such as guided zoo visit and nature trail, night trail at the zoo, getting to know the different animal groups in the

zoo, wall painting, glass painting, bird watching and others were carried out for the participants.

On World Environment Day, the team at Sundarvan strove to create an awareness among their visitors and the public that in the seven billion human dreams, we often forget to leave a little space for animals. An evening bat awareness programme, Discover Bats, was organised to shed light on the only mammal of the world that can fly ~ the bats. A group of more than 40 participants, which included active kids with their parents and curious teenagers, observed in wonder, the natural bat roost sites at Sundarvan. Both children and adults enthusiastically participated in the game that explained Echolocation.

On July 14, 2015, the 20th birthday of two Indian Rock Pythons that were born at Sundarvan in 1995, was celebrated. Activities included A Zoo Reptile Fundraiser event, snake awareness programme and Snake Awareness Poster release.

As part of the Wildlife Week celebrations, Sundarvan, in collaboration with India Post, carried out different activities to promote wildlife conservation. In September, Write a letter to a zoo animal campaign was initiated wherein children wrote letters to zoo animals telling them what they have always loved about them.

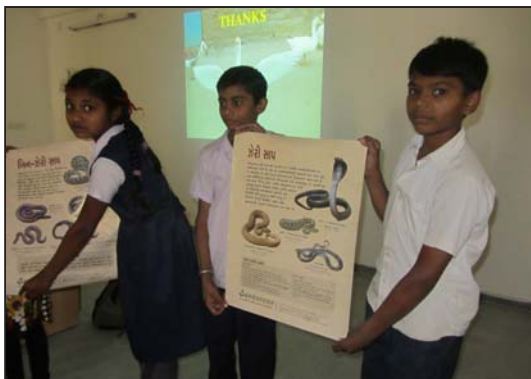
My Stamp activity was held from October 2-4, 2015 at Sundarvan. This created an opportunity for people to personalise official postage stamps with their own photographs and learn about various themes such as flowers, butterflies and others. My Stamp activity was followed by quiz programmes on

the wildlife of India; one for school students of Class 8-9 and another which was open to all.

A field trip to Hingolghadh was also conducted as part of the Wildlife Week programme. Located in Jasdan Taluka of Rajkot District, Hingolghadh Sanctuary is a green oasis in the dry plateau of Saurashtra, Gujarat. A snake awareness programme amidst the chirping of birds, a trek to Hingolghadh Fort and sunset in the grassland of Anandpur were thoroughly enjoyed by the participants during this trip.

On the last three days of National Wildlife Week (October 6-8), a Philately Exhibition showcasing stamps with wildlife themes from all over the world was held within the park. Members of the Philately Club of Ahmedabad generously lent their priceless collection for this purpose. Along with these stamps, some of the letters to zoo animals, selected from more than 500 received during the September campaign, were also displayed.

Two bird-watching trips to the Pariej wetland, a visit to the Black Buck National Park, Velavadar, three winter night programmes at Sundarvan and Christmas celebrations at the zoo were some of the activities conducted during November 2015 to February 2016.



4.1.2 Grants and Support for Education Programmes

Sundarvan received the Rufford Small Grant from Rufford Foundation, UK, to carry out snake awareness programmes for government schools in Ahmedabad. About 7,000 students and 500 teachers from 80 different schools will be reached through this programme. Resource materials such as a snake booklet and posters on venomous and non-venomous snakes are being distributed to the participants and schools. Apart from this, intensive orientation on reptiles will be given to 60 teachers through workshops. An activity manual on reptiles has also been developed for teachers under this project. Around 40 schools with over 4,000 students and 250 teachers have already been addressed through this programme, from September 2015 to February 2016. The remaining schools will be covered before the end of August 2016 and teacher orientation workshops will also be conducted during this period.

4.1.3 Procuring New Animals for the Zoo

As part of networking and partnership, Nishant Construction has completed the renovation work of the crocodile enclosure at Sundarvan during this period. The Central Zoo Authority has approved our proposal to receive two African Slender-snouted crocodiles from Madras Crocodile Bank Trust (MCBT), Chennai. The procedures are in progress to bring the crocodiles to Sundarvan from MCBT.

4.2 Nature Camping

4.2.1 Rural Programmes Group

Nature Camping and Nature Watch programmes, now being conducted through

the Rural Programmes Group of CEE, aims to inculcate a sense of appreciation for nature among the participants, make them aware of the diversity in nature and motivate them towards conserving the same.

During the year a large number of adventure camps, nature camps and nature watch programmes were organised where nature lovers from different professional and academic backgrounds as well as age groups participated. Camps were conducted at Mt. Abu, Balaram, Purna and Hingolghadh sanctuaries, besides marine camps at Beyt Dwaraka, desert camps at the Little Rann of Kachchh (LRK), and forest camps at Bakore.

The Bakore campsite has been renovated during the year to with basic camping infrastructure and facilities being created. During the year 22 nature camps were organised at Bakore, giving more than 1,000 campers an experience of forest trails and tribal life.

Marine Camps at Beyt Dwarka are a camping experience that nature lovers eagerly wait for. The camps started from December and continued till mid-February. During this period of less than three months, 21 batches totaling 1,064 campers, spent 63 days on the campsite, experiencing marine life at its best. Watching dolphins, corals and a myriad of other marine life with plenty of algal growth make it a memorable camp for the participants.

The seven day long Himalaya camp and eight day long Trans-Himalaya explorations ~ Ladakh: A journey, were highly appreciated by campers as thrilling experiences. About 54 nature lovers joined these camps during this year.

Camps were organised at Mt Abu during the summer. Six batches involving 237 campers

from all age groups participated in these camps. As being done every year, camps for special children and adventure camps were also organised at Mt. Abu. Along with other trekking, nature watch and camping activities, sloth bear sighting has become a thrilling experience during the camps at Abu.

Besides Abu, four camps were organised at Sembalpani within Balaram Sanctuary, Ambaji. Sembalpani is a remote tribal area covered with deciduous forests, near the famous temple town of Ambaji. These camps provided experiences like long trekking, rock climbing, rappelling and bird watching, along with glimpses of tribal culture. More than 200 children participated in these camps.

On the eve of World Environment Day at CEE Ahmedabad, an overnight camp for children was organised at the CEE campus itself. Activities such as star watch, night trekking, nature trails, bird watching and adventure games were the major attractions of this overnight camp. The participating children later joined the celebrations of World Environment Day.

Apart from these camping experiences, several watch programmes, desert camps, monsoon camps continued to be organised as per the season. Overall, about 3000 participants took part in nature camps, which ignited in them an appreciation and love for nature.

4.2.2 National Nature Camping Programme (NNCP)

Under the NNCP, a Camping Guidebook has been prepared by CEE on behalf of the Ministry. This manual provides succinct information and guidelines for both camp organisers as well as campers. As part of its nodal services to the Ministry, CEE had earlier organised a national consultative meeting of

camping professionals, and also prepared detailed guidelines for the NNCP grants scheme of the Ministry.

4.2.3 Nature Camping in Goa

As part of the National Nature Camping Programme of the Ministry of Environment, Forests and Climate Change, Government of India, five nature camps were organised in Bondla from December 12 to 23, 2015. Twenty six schools participated in these with 168 students and 30 teachers. The camps were for two nights and three days. Various activities including nature trails and zoo visits were conducted as part of the camps. The students learned various aspects of the forest ecosystem and also enjoyed being in the wild.

4.2.4 Camps in Partnership with Haryana Forest Development Corporation

CEE has been working closely with the Haryana Forest Development Corporation (HFDC) to develop education programmes for the state. A Memorandum of Understanding was executed between CEE and HFDC in January 2016, under which both organisations have undertaken to jointly develop and execute programmes in nature education, especially nature camps. HFDC has made its camping sites available for this purpose. By March 2016, three camps had been organised under this partnership, one at Thapli in Morni Hills and two at the Rajiv Gandhi Nature Park, Masani, Rewari.

A CEE design team also visited several sites in Haryana ~ Morni Fort, Masani Barrage, Bhondsi, and Thapli ~ to prepare concepts for interpretation centres. These concepts will be developed into proposals on receiving initial feedback from Haryana Government.

4.2.5 Nature Camps at Katarniaghat and Suhelwa Wildlife Sanctuary

CEE North organised six nature camps during November and December 2015 for eco-club schools of Bareilly, Bahraich, Balrampur and Shrawasti districts. As part of CEE North's association with Uttar Pradesh Forest Corporation (UPFC), the State Ecotourism Nodal Agency, a nature camp of three days and two nights was organised for a school in Bareilly at Katarniaghat Wildlife Sanctuary in November 2015. A group of 25 students and teachers of the school participated in the camp. The nature camp module was woven around various aspects of nature and cultural heritage. A boat ride in Girwa river during the camp familiarised the students with aquatic biodiversity including gharial, crocodile, water birds and dolphins.

A series of five camps was conducted in November and December under the National Nature Camping Programme (NNCP) supported by the Ministry of Environment, Forest and Climate Change. The NGC schools from Balrampur, Bahraich and Shrawasti districts took part in these camps at Suhelwa Wildlife Sanctuary. Over 200 students attended these camps along with their teachers. Nature trails inside the forest enabled students to observe trees closely, see leopard pugmarks, watch colourful birds and butterflies and much more. A stay at a working farm known as Tapovan encouraged the children to explore more about agricultural biodiversity. The evenings were filled with cultural activities and quizzes around a bonfire. For most of the students, this was a totally new experience which triggered their sensitivity towards appreciation and conservation of nature.

5.1 CEE-ENVIS Centre on Environmental Education and Sustainable Development

ENVIS (Environmental Information System) is a programme of the Government of India, Ministry of Environment, Forest and Climate Change (MoEF&CC). It is a decentralised network of distributed subject oriented centres integrating national efforts in environmental information collection, collation, storage, retrieval and dissemination. It comprises a Focal Point at the MoEF&CC and ENVIS centres set up in different organisations / establishments in the country, dealing with specific subject matter areas pertaining to the environment.

CEE hosts the ENVIS Centre on Environmental Education (EE) and Sustainable Development (SD) and manages information in these domains. The following mechanisms have been set up at CEE for fulfilling the ENVIS responsibilities and objectives.

1. Education for Change newsletter
2. CEE ENVIS website
3. Query Response Service
4. E-Library

5.1.1 Education for Change: ENVIS Newsletter on Environmental Education

Three issues of the electronic newsletter are being brought out to disseminate information to network members. An annual print of the newsletter focusing on selected articles is also brought out. The print run for the annual issue is 1000 copies which are sent to members on the mailing list through post. The electronic

file is shared through listserv which has about 2000 contacts.

The soft copies of the current and past issues are made available at www.ceeenvvis.nic.in.

5.1.2 CEE ENVIS Website

The ENVIS website www.ceeenvvis.nic.in caters to the EE and ESD information needs of environmental educators and interested citizens, individuals and groups. It has several interactive features for users to ask queries as well as post their ideas/project. The website has a Resources section which has various databases of activities and action projects for teachers and students.



5.1.3 Query Response Management Services

The Query Response Management Service is another significant function of the ENVIS Centre. The ENVIS Secretariat solicits enquiries across regions and strives to answer them. CEE-ENVIS has been receiving queries related to various themes and concepts like pollution, environmental courses, climate change and biodiversity. During the reporting year, CEE-ENVIS has received 2109 queries through phone calls, and about 150 through emails and all have been responded to.

5.1.4 E-Library

An online database with a large collection of articles, books, e-books, and journals on different themes are available on EE and ESD subject areas.

5.2 TVE Video Resource Centre (VRC)

CEE has been a Video Resource Centre (VRC) of the Television Trust for the Environment since 1997. As a VRC, CEE makes local language versions of international environment films; produces instructional material for facilitating effective use of films as an educational resource; produces print materials to support and promote film distribution - film catalogues, newsletter, periodical publications and others; promotes the dissemination of films on environment, development and social justice issues through various channels - print, internet, workshops,

film festivals, to name a few; produces own films and publicises films produced by others.

CMU continued its function as a Video Resource Centre during the year under reporting. Various environment and sustainable development related films were borrowed both by programme groups within CEE and by external institutions, for use in training and public screenings. Schools, colleges and NGOs continue to use this resource for their needs.

5.3 Capacity Building Workshops for Media on Climate Change and Development in the Indian Himalayan Region

Centre for Environment Education (CEE) and The Third Pole (TTP) were awarded a mandate by the Climate Change Division (CCD) of Swiss Agency for Development and Cooperation under Indian Himalayas Climate Adaptation

Table: Details of the four media capacity building workshops conducted in IHR

Media Workshop Location	Duration	Participants Journalists	Resource Persons & Organisers	Workshop Theme
Shimla, Himachal Pradesh	July 30 ~ August 1, 2014	18	16	Impact of Climate Change on Agriculture, Forests, Biodiversity, Food Security, Livelihood
Namchi, South Sikkim	November 19, 2014	25	12	Watershed Management and 17- Reviving the Water Streams
Srinagar, Jammu & Kashmir	April 6-8, 2015	17	11	The Devastating J&K Floods
Jorhat & Majuli Islands, Assam	November 2-5, 2015	14	12	Climate Change Impacts on Agriculture, Tea and Fish; Floods and Soil Erosion in Brahmaputra Basin; and Livelihood in Majuli Islands

Programme (IHCAP), to sensitise journalists on climate change trends in the Himalayan region, as well as orient them about effective reporting on climate change issues, case studies and sustainable development for the mountain communities.

Under the mandate, four capacity building workshops for media on climate change and development in the Indian Himalayan Region (IHR) were organised jointly by CEE and TTP under IHCAP, with support from Department of Science and Technology (DST) and Ministry of Environment, Forest and Climate Change (MoEF&CC), Government of India. The workshops were conducted in the states of Himachal Pradesh, Sikkim, Jammu & Kashmir and Assam, during the period between March 15, 2014 and December 14, 2015. The intention was to cover the entire Himalayan Range - Western, Central and Eastern. It was decided to conduct a workshop in Sikkim also as the state is strategically important for India, lying astride the shortest route from India to Tibet.

Overall 74 journalists from print, television, radio and online media and 51 resource persons and organisers attended the workshops. The duration of each workshop was three days, with the first and last day assigned to in-house sessions - presentations, interactive talks/discussions and group work, while the second day was kept aside for field visits.

5.3.1 Third Media Capacity Building Workshop on Climate Change and Disaster Risk Reduction in the IHR

The third workshop in the series was held in Srinagar, Jammu & Kashmir, from April 6-8, 2015, with the objective of enhancing journalists' understanding of the role of

climate change in natural disasters, with a special focus on the devastating floods experienced in the Kashmir Valley in September 2014.

The workshop was attended by 17 diverse groups of journalists from print and online media based in Jammu & Kashmir, Chandigarh, Uttar Pradesh, New Delhi and Mumbai.

The first day of the workshop saw presentations by speakers focusing on the causes of the September 2014 floods - both climatological and man-made - impacts of the floods, their linkages with climate change, land use pattern and development in the Valley. Key speakers included Dr. Tej Pratap, Vice-Chancellor of the Sher-e-Kashmir University of Agricultural Sciences and Technology, Srinagar; Mr. Sonam Lotus, Director, Indian Meteorology Department, Srinagar; Mr. Saleem Beg, Member of the National Monuments Authority, Government of India; Mr. Iftikhar Hakim, Chief Town Planner of the Srinagar Development Authority; Mr. Javed Jafer, Chief Engineer of Jammu & Kashmir Irrigation and Flood Control; and Dr. G. M. Dar, Jammu & Kashmir Institute of Management, Public Administration and Rural Development.

The second day of the workshop was spent in field visits to some of the worst affected city wards of Srinagar in September 2014; a transit camp for members of the fishing community that had lost their homes; the Wular Lake and a village near the Wular Lake where apples are cultivated. These visits enabled participants to witness the impact of the devastating floods of September 2014 and to directly interact with the communities that had been affected.

The third day was devoted to in-house discussions on the insights received from the sessions and field visits of the previous days. The participants listed and evaluated their ideas for news reports and Mr. Joydeep Gupta of TTP guided the participants in determining what could become in-depth news reports and news features, and identified shortcomings that needed to be recognised and dealt with by media persons.

A screening of the documentary, **Kashmir: Into the Murky Waters**, filmed and produced by Associated Media, was also held on this day.

5.3.2 Fourth Media Capacity Building Workshop on Adaptation to Climate Change in the Brahmaputra Basin

The last workshop in the series, held in Jorhat and Majuli Islands, Assam during November 2-5, 2015, focused on climate change impacts and adaptation measures in the eastern Himalayas, with a special focus on the Brahmaputra basin.

Fourteen journalists from print, television and online media from different parts of Assam and the Northeast region participated in the

workshop. The deliberations of the workshop focused on climate change and its impact on various sectors - precipitation, agriculture - especially on tea and rice, horticulture and extreme climate events such as floods and entailing erosion. This was followed by a field visit to Majuli Islands to gain first hand experience of the impact of erosion on communities and understand government interventions in this regard.

The eminent speakers included Dr. Muraleedharan, Director, Tocklai Tea Research Association; Dr. R. M. Bhagat, Deputy Director, Tocklai Tea Research Association; Dr. R. K. Bora and Dr. Gaurav Mishra from Rain Forest Research Institute; Mr. Rajiv Bora from Brahmaputra Board; Dr. Jayanta Deka, Principal Scientist, Department of Agronomy; Dr. Iswar Chandra Barua, Department of Agronomy; Dr. Rajiv Lochan Deka, Department of Agro-meteorology; and Dr. Bibha Chetia Borah of Fisheries Research Centre from Assam Agricultural University.

The first day of the workshop focused on the impact of climate change on tea crop such as increased pest attacks, need for irrigation, deteriorating quality and yield, through presentation from Tocklai Tea Research Institute, Tea Research Association, Jorhat. They also shared the various efforts taken by the institution to counter such impacts by trying out more climate-resilient varieties of the tea crop, monitoring, digitalising of tea gardens and so on. Experts from the Rain Forest Research Institute, Jorhat, of the Indian Council of Forestry Research & Education made a presentation on the incidence of pine mortality and dwarfing/stunted growth of Siroy Lily in Manipur. Officials from the Brahmaputra Board presented the various measures they have undertaken to mitigate



Participants at Tocklai Tea Research Institute

erosion in the island of Majuli with the help of structural measures such as geo-bags, spurs and embankments. The participants asking critical questions during the interactions that followed resulted in better and comprehensive understanding of the topics.

Presentations on the second day revolved around climate change impacts on agronomy, agro-metereology and fisheries sectors in Assam. Dr. Ishwar Chandra Barua from the Department of Agronomy, Assam Agriculture University (AAU) in Jorhat shared case studies about climate change, weed invasion and biodiversity loss in the state. Dr. Jayanta Deka of the same department discussed the resurgence of certain pests and dominance of some secondary pests over primary ones. He also shared interesting connections between migration of birds and incidence of new pests in the region. Dr. Rajib Lochan Deka from Department of Agro-metereology, AAU presented on the trends and fluctuations of the rainfall regime in the Brahmaputra and Barak basins of Assam and what they would mean for crops such as tea. Dr. Bibha Chetia Borah of Fisheries Research Centre, AAU, enlightened the group on how climate change was impacting fisheries in the state in the form of decline in riverine catches at all landing centres over the past four decades, decline in share of carps and catfishes in the catch, increasing dominance of small sized fishes and drastic decline in the abundance of certain fish species such Bengala elanga and *Pangasius pangasius*. Her presentation evoked a lot of curiosity among the participants and led to interesting discussions.

The workshop included a field trip to Majuli to facilitate ground-level reportage of adaptation to climate change. Majuli is a large

island in the Brahmaputra River which has been losing its land due to excessive erosion. The field trip included visits to Salmora, the area most affected by flood and soil erosion in Majuli and interactions with the community.

5.3.3 Achievements of Media Capacity Building Workshops

- 74 media personnel were trained through four media workshops, which was more than the proposed target.
- Modules on Reporting Climate Change and Sustainable Development and Trainer s Guide have been developed to facilitate more such workshops in the future by different agencies.
- Eight workshop reports have been prepared containing in-depth details of each workshop, with two reports for each workshop - Proceedings and Journalist. While the report of the proceedings has documented the workshops as they were conducted, the journalist reports provide the gist of the deliberations made and discussions held.
- The amount of media coverage given to climate change issues has increased with



Participants interacting with cattle herder of Majuli Islands

more than 40 press and electronic reportings/case studies appearing in the media.

5.3.4 Links to Media Stories

Media Stories Links post Srinagar Workshop

Media Workshop on climate change and disaster in India. Mountain Partnership - working together for mountain peoples and environments. March 25, 2015.

<http://www.mountainpartnership.org/news/news-detail/en/c/281743>

Kandizal never breached deliberately during floods. Kashmir Reader. April 07, 2015.

<http://www.kashmirreader.com/kandizal-never-breached-deliberately-during-floods/>

The myth of Kandizal ~ Faisul Yaseen. Rising Kashmir. April 07, 2015. Latest News

<http://www.risingkashmir.com/the-myth-of-kandizal/>

Climate change may lower production, quality of Kashmir apple. Kashmir Reader. April 07, 2015.

<http://www.kashmirreader.com/climate-change-may-lower-production-quality-of-kashmir-apple/>

Met failed to predict torrential rains that caused Srinagar's 2014 floods- Naseer Ganai. Mail Online India. April 9, 2015

<http://www.dailymail.co.uk/indiahome/indianews/article-3032699/Met-failed-predict-torrential-rains-caused-Srinagar-s-2014-floods.html>

Perishing Large Cardamoms. Chandrani Sinha. Business Northeast. State Beat Sikkim.

March 2015 <http://s9.postimg.org/pr1n7loen/Cardamom.jpg>

Climate Change isn't the only problem. Bharat Lal Seth. International Rivers protecting people water life. April 15, 2015.

<http://www.internationalrivers.org/blogs/328-14>

Kashmir Is Ground Zero For Climate Change Impacts. Dinesh C Sharma. Metro India. April 22, 2015.

<http://metroindia.com/Details.aspx?id=68464>

Living with High Water in the Himalaya. Rahul Goswami. May 11, 2015 <http://www.resilience.org/stories/2015-05-11/living-with-high-water-in-the-himalaya>

Six months after: Will flood ravaged Kashmir learn? Nivedita Khandekar. May 21 2015 5:02AM <http://www.thestatesman.com/mobi/news/section-ii/six-months-after-will-flood-ravaged-kashmir-learn/64453.html>

Nepal Quake Underscores the Need for Updated Resource Inventory. Nivedita Khandekar. May 16, 2015 <http://www.theasiadigest.com/feature-disaster/flood-/earthquake/12394/nepal-quake-underscores-the-need-for-updated.htm#.VWLbWtWqqkp>

Abandoned, Kashmir flood victims suffer in silence. Afsana Rashid, The Milli Gazette. May 12, 2015

<http://www.milligazette.com/news/12348-abandoned-kashmir-flood-victims-suffer-in-silence>

The quest for the Himalayan quail. Ananda Banerjee, Livemint. May 31, 2015.

<http://mintonsunday.livemint.com/news/the-quest-for-the-himalayan-quail/2.3.2759013244.html>

When the last of India's forest corridors vanish, so will the wildlife. Ananda Banerjee, Livemint. June 5, 2015.

<http://www.livemint.com/Politics/B3KHli9nAI9qHUH0MyXk7N/When-the-last-of-Indias-forest-corridors-vanish-so-will-th.html>

Presence of banned pesticide in Dal Lake prompts concerns of its accumulation in fish, humans. Abdul Mohamin, Kashmir Reader. June 5, 2015.

<http://www.kashmirreader.com/presence-of-banned-pesticide-in-dal-lake-prompts-concerns-of-its-accumulation-in-fish-humans/>

<http://www.hindustantimes.com/mumbai/maharashtra-has-lost-huge-chunk-of-forest-to-wind-power-projects/article1-1086866.aspx>

<http://www.hindustantimes.com/mumbai/city-researchers-develop-18-dye-molecules-for-solar-cells/article1-820866.aspx>

<http://www.hindustantimes.com/mumbai/next-fuel-from-algae/article1-659445.aspx>
<http://www.hindustantimes.com/mumbai/elephanta-gets-solar-power/article1-639413.aspx>

<http://www.hindustantimes.com/mumbai/going-green-iit-bombay-style/article1-832747.aspx>

Media Stories Links post Jorhat, Majuli Workshop

Scientist raises tea-pest alarm. Smita Bhattacharyya.

http://www.telegraphindia.com/1151103/jsp/northeast/story_51134.jsp#.VkYGD BgmpKo.email

Majuli plans come & go but erosion stays. Smita Bhattacharyya.

http://www.telegraphindia.com/1151111/jsp/northeast/story_52546.jsp#.VkYHUFlty-8.email

Eroding Brahmaputra threatens Majuli's unique pottery industry. Azera Parveen Rahman. November 25, 2015. The Third Pole

<http://www.thethirdpole.net/2015/11/25/eroding-brahmaputra-threatens-majulis-unique-pottery-industry/>

Tea trouble brewing in Assam. Usha Dewani Das.

<http://www.indiawaterportal.org/articles/tea-trouble-brewing-assam>

5.3.5 One Day Orientation for Media on Climate Change Reporting in Jammu

CEE - Himalaya Initiative conducted a one day workshop for media in the context of Science Express Climate Action Special visiting the Indian Himalayan Region, with support from Swiss Agency for Development and Cooperation (SDC), under its Indian Himalayan Climate Action Programme (IHCAP). Hosted by the Department of Environmental Sciences of the University of Jammu, and the Press Club of Jammu, the workshops were designed for equipping educators on climate change and on orienting media for climate change reporting.

Organised and conducted in collaboration with the Centre for Environment Education and Training, Jammu & Kashmir, and the Press Club of Jammu, the workshop was held on

December 15, 2015, in Jammu. A large group of media persons representing broadcast media (television and radio), print and online news attended the workshop.

Shri Bali Bhagat, State Minister for Social Welfare, Forest, Ecology and Environment, was the chief guest. Mr. O. P. Sharma, IFS and Director of the Department of Environment, Ecology and Remote Sensing, was the guest of honour.

Dr. C. M. Seth, environmentalist, in his introductory welcome said that India had made big gains at COP21 and had shown that it is our lifestyle which reduces the carbon footprint and CO₂. Avowing that it is possible to bring in development as well as work for climate justice, he said that adaptation and mitigation would be made part of the planning process in the state. Describing the inclusiveness of the new environmental approach in the state, he said 12 panchayats had been identified who would prepare their local biodiversity registers.

In his address to the participants, Mr. Bhagat highlighted the need for collective action to address the effects of climate change. He said the role of the media on the subject is of critical importance, especially as environment is a subject that touches the life of the rich and poor, and making it obligatory for every individual to contribute to being environmentally responsible. He outlined some of the recent measures taken by the state government to conserve natural resources, reduce the menace of encroachment on forest lands, revive degraded forested areas and curb the smuggling of timber and minor forest produce. The minister also appreciated the initiative taken to bring the Science Express train to Udhampur and Samba stations in the state in November 2015.

Dr. Abdhesh Gangwar pointed out that climate change is connected to everything; hence all sections of society must participate in addressing it and contribute to reducing the impacts of society upon the environment as a collective responsibility. He pointed out that the lifestyle aspect has been brought into the preamble of the COP21 agreement which is a big achievement. This was followed by a screening of the video clip on the Science Express.

Mr. Sanjit Khajuria of Doordarshan Kendra, Jammu agreed that there has been great change in the media over the last 15 years and the understanding of climate change and its effects has become deeper and reached more media persons. He said that the media should interact with ordinary people and speak their language when communicating about climate change and about different approaches to living with its effects. He highlighted the Prime Minister's statement that development is necessary but the environment must be protected.

The Press Club of Jammu, at this point, announced that a centre for environmental studies is proposed to be set up at the Press Club.

Mr. Rahul Goswami delivered the technical session on media reporting and climate change. Touching upon the work of CEE Himalaya over the past year on the Indian Himalayan Climate Adaptation Programme (IHCAP), he also provided the participants a summary of the four media workshops. Using the points made by the resource persons of the workshop series and the feedback from the participants, he outlined the challenges faced by local administrators and planners and the perceptions of journalists about reporting for state and national media about climate change

issues. He also provided suggestions to deal with the constraints - whether institutional or procedural - so that the reader or viewer would find it more meaningful to engage with news stories, features and articles about the effects and impacts of climate change and the responses of society and individuals.

Dr. Bachha Babu of the Department of Mass Media and Communications, Central University, provided a thought provoking and

critical view of the COP21 climate negotiations and the recent history of international climate meets. He said the economics and business nature of the summit appeared at times to overshadow the climate aspects. He also examined the issues of negotiations, the official responses of governments including that of the Indian government, and how concepts such as 'carbon budget' were seen to apply to everyday lives and livelihoods.



6.1 Khangchendzonga National Park Interpretation Centre, Yuksom, Sikkim

A small interpretation facility was set up at Yuksom in West Sikkim, which is the gateway to the Khangchendzonga National Park (NP), one of the best protected areas in the Himalayas. The centre was set up in May 2015 in a small building at the entrance to the park which also houses the forest check-post. Forest, Environment and Wildlife Management Department of the Government of Sikkim supported the project.

CEE designed, fabricated and installed nine photo-text panels covering five themes: Flora/Medicinal Plants; Fauna; Avifauna; Forest Types; Khangchendzonga NP Landscape. The panels help enhance tourists' experiences and understanding about the national park.

The panels installed were:

1. Five Treasures of the Snow! - Khangchendzonga NP safeguards the fragile eastern Himalayan ecosystems.
2. Mammals of the Mountains
3. Unbeatable Ungulates ~ Ungulates well adapted to the steep slopes of the Himalayas
4. Bird Bonanza! ~ Khangchendzonga Biosphere Reserve is a designated Important Bird Area (IBA)
5. Birds in Danger! ~ This NP is a haven for many endangered and endemic birds
6. Green Slopes! ~ The different forest types that rapidly change with rise in altitude
7. Green Wealth! - From colourful flowers to medicinal plants

8. Green Care! - The wealth of medicinal plants and fungi seen in the NP

CEE has also designed two name panels for the Interpretation Centre and the check post respectively.

6.2 Tadoba-Andhari Tiger Reserve Interpretation Centre, Moharli, Maharashtra.

Tadoba-Andhari Tiger Reserve is considered one of the best tiger reserves in the state of Maharashtra and sees a heavy influx of tourists every year. A small interpretation centre consisting of photo-text panels was set up in October 2015 in the waiting hall at the entrance to the reserve. The panels cover various themes related to the reserve such as biodiversity, threats and conservation measures. As this hall is used by tourists when waiting to get their permits to enter the reserve or as a place to rest, it is an ideal place for setting up an interpretation centre. In addition, large hoardings carrying conservation messages were also installed on the main road leading into the reserve and hoardings with do's and don'ts for tourists were set up at various entry gates.

6.3 Museum-cum-Interpretation Centre at Swami Vivekananda Institute of Mountaineering (SVIM), Mt. Abu, Rajasthan

A unique, first of its kind interpretation centre on mountaineering was set up in November 2015 at the Swami Vivekananda Institute of Mountaineering (SVIM) at Mount Abu, Rajasthan. At the entrance to the centre, visitors are greeted by a diorama of two children climbing a rock wall. Inside the hall there are photo-text panels which give a glimpse into



Rock Climbing Equipment Display - SVIM
Museum cum interpretation Centre, Mt. Abu.

the world of mountaineering by covering varied themes ranging from the history of mountaineering to its science, important landmarks and famous people. The centre also houses an elaborate display of rock climbing and ice climbing equipment displayed on models of rock and ice walls, along with actual size human models displaying mountaineering gear. There is also an attractive diorama on the Himalayan ranges along with scale models of climbers. Several publications like a handbook based on the interpretation centre, a brochure of the institute and a prospectus were also designed and printed.

6.4 Re-vamping of Chilika Lagoon Visitor Centre at Satapada, Odisha

An interpretation centre on the shores of the Chilika Lagoon at Satapada, Odisha was set up by CEE in 2002. In 2015 the facility was upgraded by CEE. The lagoon has undergone many positive changes in the last decade thanks to the efforts of the Chilika Development Authority. The panels at the centre were updated and re-designed to interpret the current status of the lagoon. Some

new exhibits were added like a diorama showing the Irrawaddy Dolphin, the star animal of Chilika, and otters. Another diorama was installed depicting the bird diversity at Nalaban Bird Sanctuary, an island in the middle of the lagoon which attracts thousands of migratory birds. The older exhibits were repaired and refurbished.

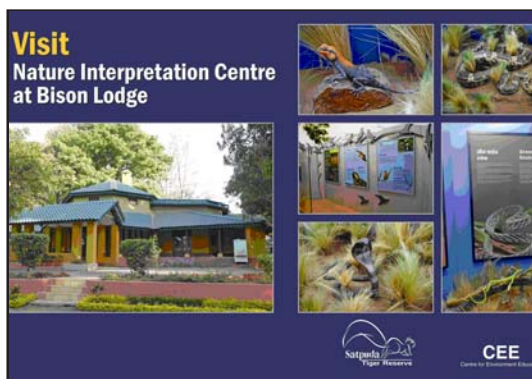
6.5 Interpretation Centre at Bison Lodge and PWD Guest House, Pachmarhi, Satpura National Park and Tiger Reserve, Madhya Pradesh

Satpura Tiger Reserve, situated in the Satpura mountain ranges, comprises the Satpura National Park and the adjoining Bori and Pachmarhi Wildlife Sanctuaries. The rugged terrain of the park is made of rocky outcrops, deep valleys, gorges, numerous waterfalls, many perennial and seasonal streams, rivers and beautiful forests teeming with rich biodiversity. Pachmarhi Sanctuary is most famous for its beautiful waterfalls and scenic beauty. The forests here abound in large mammals such as tigers, leopards, bears, gaur, besides small mammals and birds.

CEE was commissioned by the Madhya Pradesh Forest Department to design and develop a Nature Interpretation Programme for the Bison lodge and their old Public Works Department (PWD) guest House located at Pachmarhi, which is the only hill station in Madhya Pradesh and is a popular tourist destination for many.

As part of the project, the following components have been designed, developed and installed at the site :

- Bison Lodge - New Interpretation Centre



- „ PWD Guest House ~ New Interpretation Centre
- „ Gazebo - a Souvenir shop
- „ Redesigned gates
- „ Landscape design
- „ Signage for facilities

Various concepts covered at the Interpretation Centre include the history, geography, biodiversity, management, conservation issues , tribals and tribal culture, evolution of the forest department, wildlife, water falls, religion, customs, festivals, traditions, temples and monuments related to the reserve.

The Bison Lodge has a new Interpretation Centre showcasing Satpura, its biodiversity and wildlife, culture and history, and natural beauty using multimedia techniques like dioramas, touch screen, life size models, photo translites, text panels, and sound exhibits. The PWD Guest house has an interpretation of the bird life in Satpura, smaller charismatic species like reptiles, amphibians and insects, and the rich plant diversity.

CEE has also developed car stickers as mementos for visitors while two publications, which include a coffee table book and a handbook on Satpura, are being developed.

6.6 Bhagyanagar Nandanavanam Park Interpretation Centre at Narpally

CEE Hyderabad office has received approval from the government for the concept, design, development and installation of panels and 3D models at Bhagyanagar Nandanavanam Interpretation Centre. The work is currently in progress.

6.7 Interpretation Centre on Marine Biodiversity, Tannirbhavi, Karnataka

CEE Karnataka, in collaboration with the Karnataka Forest Department, developed an Interpretation Centre on Marine Biodiversity at Tannirbhavi near Mangalore with the aim to create awareness on marine ecosystem and biodiversity and the need for their conservation. As part of this initiative, display

panels on the history of Tannirbhavi, its marine resources and their benefits, marine biodiversity, amazing marine species, Western Ghats and its rich biodiversity, and forest resources of Karnataka were developed. Besides, 3D models on mangrove ecosystem and interactives on bird calls, mammal calls and frog calls were established at this centre. Outdoor wayside displays highlighting the importance of trees and about the amazing birds and animals in the area were also developed and installed.

6.8 Interpretation Centres in Tamil Nadu

CEE is providing technical support to three interpretation centres in Tamil Nadu initiated by the Forest Department, Government of Tamil Nadu with financial support from Tamil Nadu Biodiversity Conservation and Greening Project (TBGP). The interpretation centres are being initiated at Amritha Zoological Park, Vellore; Zero Point, Pechiparai; and Kanya Kumari with the aim of transforming a recreational visit into an educational opportunity.

Knowledge Management for Sustainability

7.1. Assessment of Community Dependence in Coastal Ecologically Sensitive Areas

The Centre for Environment Education (CEE), with the support and partnership of the National Centre for Sustainable Coastal Management (NCSCM), is facilitating field studies in the coastal areas of Karwar (Karnataka); Gulf of Kachchh and Gulf of Khambhat (Gujarat); and East and West Godavari, Coringa (Andhra Pradesh). The project objective is to capture household level data regarding the dependency of the community on the coastal ecologically sensitive natural resources and their ability to manage them. The results of the field studies will help in the development of a decision support tool for the Ministry of Environment, Forest and Climate Change (MoEF&CC) and state governments to identify Critically Vulnerable Coastal Areas (CVCAs) and design interventions to involve the local community for sustainable coastal management in such areas. On an average, in each location more than 1000 households representing fishers, farmers, labourers, urban and rural settlements were surveyed. The survey instrument uses a specially designed app to capture household data and transfer it via internet to the server where results can be analysed. CEE has completed the survey in all the locations and supported the NCSCM for inputs in the decision support framework too. It is hoped that in the next phase, the survey tool would be used in all the coastal state governments to

pursue such studies independently at the state level, with the involvement of the local communities and NGOs, and implement community based and co-managed plans for sustainable use and conservation of coastal resources.

7.1.1 Comprehensive Survey in Andhra Pradesh

CEE Andhra Pradesh State Office has implemented the project for the assessment of the extent of community dependence on the coastal ecologically sensitive areas (ESAs) in Coringa, Krishna and Godavari, Andhra Pradesh with the support of NCSCM. The main objective of the project is to understand and quantify the socio-ecological values, social dependency values and ability of the community to manage the ecosystems (Ecological Sensitive Areas (CSAs) / Critically Vulnerable Coastal Areas (CVCAs) using the services of the local youth groups.

Four districts were selected by NCSCM for the survey, viz. East Godavari, West Godavari, Guntur and Krishna. Twenty one enumerators were identified, based on their qualifications and experience in coastal and rural development, with the support of local NGOs and the District Biodiversity Coordinators to conduct the survey. They were then provided training on the survey questionnaire and use of the tab. The survey was conducted in 2050 households spread over 88 villages in four districts and completed in 25 days.

8.1 Sustainable Business and Climate Change

CEE's Sustainable Business and Climate Change (SBCC) Group works business in order to assist them to evolve and support actions towards sustainable development. The group works on the thematic areas of sustainable business, climate change and industrial pollution prevention, and linked with the ESD approach, carries out action based research.

The activities of the group involve information servicing, training, assessments and capacity building on thematic areas related to sustainability, climate change, energy and waste, linking industrial activities with environmental compliance, protection and policy learnings.

The climate change programme focuses on climate change education for sustainable development, climate policy, carbon financing projects and footprint assessment. It develops academic courses and programmes for centres of higher learning, assists course development and delivery, carries out monitoring and assessments on climate adaptation and mitigation, and conducts research on emerging themes in climate.

SBCC's energy programme focuses on energy efficiency assessment, GHG emission reduction and providing advisory support for development of decentralised energy systems in urban and rural areas including monitoring and evaluation of projects.

The Industrial Pollution Prevention programme aims at enhancing the capacity of industries in pollution prevention and remediation through training, workshops and demonstration projects in the area of waste management, cleaner production, and process

efficiency. The programme works closely with industries, associations and chambers of commerce across different states and with multiple regional and national level partners.



Figure 1: SBCC Structure

8.1.1 Earth Care Awards

The Earth Care Awards, started in year 2007, entered into its sixth year. The awards recognise excellence in climate change action and covers both mitigation and adaptation sectors. As part of the process, CEE evaluated around 130 applications from categories like industry, community and innovations. The applications were received from across all of India and countries in the SAARC region. The cases on climate change were assessed on climate change mitigation and adaptation aspects and were further evaluated on the basis of their impact, adherence to benchmark and sustainability aspects. The shortlisted applicants were further visited for completing site level evaluation and the findings presented to the jury. The awardees were felicitated with Earth Care Awards in an event where their efforts were showcased and presented.

8.1.2 Knowledge Centre on Hazardous Waste Management

The project on development of products from wastes is part of the circular economy initiative

of CEE. As part of this, CEE presented its work and conducted a roundtable on the topic with subject experts from the Gujarat Pollution Control Board and the University of Guelph, Canada.

As part of the activity, CEE created a platform with the regulatory authority, individual industries and Industrial association for utilisation of industrial waste. It has prepared an inventory of industrial wastes based on their characteristic and drawn a sustainable plan for their utilisation. CEE demonstrated the development of various types of bricks/blocks from hazardous and non-hazardous type of industrial wastes which have good material strength and are non-toxic in nature. These have been developed in combination with binding materials to prevent leaching and also provide required compressive strength. The activity can now be upscaled through securing funds support and completing all required processes for its adoption into practice.

The project provides research based support for decision making regarding characterisation of wastes and segregation into resources, and for creation of a market based network where producers of waste are linked to potential buyers. The activity has been able to enhance the knowledge base of manufacturers (members of Odhav landfill site) of such waste and help in the reduction of waste at source.

8.1.3 Clean Development Mechanism (CDM) on Afforestation/Reforestation

This activity aimed to conceptualise , evelopment of projects on CDM, as part of which, CEE submitted Project Design Documents (PDDs) for the two CDM projects:

- Community Based restoration of degraded mangrove habitat in Talaja Takuka, Bhavnagar District
- Small Scale Cooperative Afforestation CDM Project Activity on Private Lands in Panchmahal Disstrict, Gujarat

The projects have been prepared in accordance with the CDM guidelines and methodology.

8.1.4 Avoidance of Carbon Emissions through Resale of Products

Consumption-based carbon emissions has become a growing trend around the world and with increased access to resources and a consumptive economy, countries have started reflecting on the growing per capita footprint. Centre for Environment Education (CEE), as part of a study sponsored by OLX, undertook an assessment of product carbon footprint. It looked closely into consumption-based greenhouse gas emissions and at the possibility of developing a process for GHG accounting through product footprints. The study attempted to assess the product carbon footprint of goods transacted in high volumes at OLX.in, and the cumulative carbon emissions avoided through the transaction of used goods.

This study is an attempt to leverage the potential of used goods and the impact it has on the economy beyond the price considerations. The study looked at various product categories, with the choice of products being based on both the volume of transactions and the impact it may have on the environment. Representative products across categories were then analysed for their impacts assessed through the life cycle assessment on the principles of Cradle to Gate extended up to distribution networks.

8.2 Climate Change Circle of SBCC Group

At CEE, climate change is dealt with as a cross-cutting subject: for example it is dealt with through the Prayavaran Mitra school project while it is also a standalone area. The climate change team of the SBCC Group deals with climate change education for sustainable development, climate policy and climate education policy. In the period of April 1, 2015 to March 31, 2016, the following projects and activities were undertaken by the climate change team.

8.2.1 Science Express Climate Action Special (SECAS)

In the run to the 21st Conference of Parties (COP21) under the United Nations Framework Convention on Climate Change (UNFCCC) in Paris in December 2015, the Science Express has been redesigned on the theme of Climate Change. From October 15, 2015, it is running as the mass awareness campaign 'Science Express ~ Climate Action Special (SECAS)' across India. It is a unique collaborative initiative of the Department of Science & Technology, the Ministry of Environment, Forest & Climate Change (MoEF&CC), and the Ministry of Railways, Government of India.

The state-of-the-art exhibition aboard SECAS aims to create awareness among the various sections of society, especially students, on how climate change can be combated through mitigation and adaptation. SECAS intends to contribute towards increasing understanding of the science of climate change, the observed and anticipated impacts, and various possible responses.

Of the 16 coaches of SECAS, the exhibition in eight coaches developed by CEE on behalf of

MoEF&CC, Government of India, is exclusively devoted to information, case studies and material related to various aspects of Climate Change, the underlying science, impacts, adaptation activities, mitigation solutions and policy approaches, in a manner that is easy to understand and interesting for not just school students but also the masses.

The broad themes covered in each exhibition coach are as follows:

- Coach 1: Understanding Climate Change - Insights into the climate as a system, the greenhouse gas effect and the underlying reasons for climate change with the key message that the current change in the climate is due to human activities.
- Coach 2: Impact of Climate Change - How temperature rise, monsoon variations, sea level rise are predicted to affect vital sectors like water, agriculture, forests and biodiversity, and human health, and ways to reduce these.
- Coach 3 & 4: Adaptation - Concepts of adaptation and examples from day to day life, adaptation strategies and stories from the field; adaptation options in urban and rural contexts and the adaptation actions India is taking.
- Coach 5 & 6: Mitigation - Concept and definition of mitigation with examples, with emphasis on restoring balance, enhancing sinks and reducing emission through Renewable Energy (RE) technologies. Various programmes implemented by India, low carbon strategies and India's ambitious goal to increase RE footprint.
- Coach 7: International Negotiations on Climate Change - Introduction to UNFCCC, IPCC and internationally agreed action and

targets. Explanation of the concept of equity and common but differential responsibility, Kyoto Protocol and other key outcomes of major COPs.

Coach 8: Handprint - What can one do at school, on the roads, at home and in offices with the focus on the concept of lifestyle choices, with the key message Increase your Handprint. Decrease your Footprint .

SECAS travels in its fifth phase across the country for about seven months, halting at 64 locations in 20 States, covering about 19,800 km. The exhibition will convey a strong message about Climate Change and will also be a good opportunity to generate dialogue and discussion on the topic.



8.2.1.1 SECAS in West Bengal

CEE Kolkata, in collaboration with Department of Environment, Government of West Bengal, facilitated activities and outreach of SECAS in West Bengal.

A detailed orientation programme was conducted by CEE and NGO facilitators at New Jalpaiguri on December 17-18, 2015, for the facilitators from West Bengal and Assam. The training made all the selected facilitators, aware of the various aspects of climate change and the activities to be conducted during pre-train and on platforms. They were provided with kits containing materials required to conduct the activities, which were demonstrated and discussed during the training.

The activities included conducting competitions, games, demonstrations and quizzes using the educational activity kits, with the students and visitors. The train stopped at six stations of West Bengal during the period December 30, 2015 to January 27, 2016. About 10,000 students and teachers benefitted through the pre-train orientation in the area around each station and a total of 203106 people (students and local public) visited the Science Express during its course of journey in West Bengal.

An intensive feedback survey was also conducted with all those who visited SECAS in West Bengal. The feedback survey elicited responses from all the teachers who visited SECAS through phone calls. A field survey was also undertaken with selected schools and colleges. The responses from students, teachers, professors and youths who visited as well as who did not visit SECAS from the selected schools are being documented for an analytical report.

SECAS- Painting Competitions: CEE Kolkata facilitated the painting competition (for class 6 to 10), the best paintings out of which would be used as display panels on the windows of SECAS. The aim of the competition was to make students aware and make them think about ways to mitigate impacts of climate change, drawing their vision for the competition.

8.2.1.2 SECAS in the Himalayan Region

The Climate Change Division (CCD) of Swiss Agency for Development and Cooperation (SDC), under its Indian Himalayas Climate Adaptation Programme (IHCAP), collaborated with CEE Himalaya Initiative to support the SECAS train in the Indian Himalayan Region (IHR).

During its journey, SECAS visited six stations in three states of the Indian Himalayan Region, namely Amb Andura, and Churaru Takarla in Himachal Pradesh (HP); Udampur and Samba in Jammu & Kashmir (J&K); and Haridwar and Lalkuan in Uttarakhand, between October 9 and December 31, 2015. Since these stations lie in the mountain terrain and the train only halted for 2 or 3 days at each station, the outreach was limited as people found it difficult to visit the train. Therefore CEE Himalaya and SDC decided to conduct activities on the platforms as well as in the cities of the station where the train halted, and also in Shimla in HP and Jammu in J&K where the train did not visit.

Pre- Train Activities

Before the arrival of SECAS in the six designated stations, CEE Himalaya conducted varied activities to provide a background about climate change to school students, teachers and the general public as well as to motivate them to visit the train.

CEE Himalaya Team visited various schools and ignited interest in the train using standees, science kits and other IEC material. Activities conducted include drawing, poster making, extempore speech, discussion, debates, essay writing, quiz, idea activity, mini science experiments, activities on basic science and mathematics concepts, spread the word, check your emissions, take your pick, ropes and ladder games, display of standees and discussion based on them. Students performed also performed skits on environment conservation and climate change.

Activities were also conducted with farmers, street vendors, sadhus and others. In all, 4927 students, 194 teachers, 15 sadhus, 10 street vendors, 260 pilgrims, 55 farmers and 216 general public were addressed through various events/ activities.

Street vendors: A small discussion was held with street vendors at the Ghats in Haridwar on the impact of climate change in Haridwar, Clean Ganga Mission and the impact of these on their livelihoods. It was found that during Ganga cleaning the holy water is stopped for a certain stretch of the ghats due to which many tourists do not visit that particular stretch, thereby impacting the livelihood of the vendors there.

Farmers: To document the impact of climate change on agriculture, discussions were organised with farmers at Rishikesh, Haridwar and Lalkuan about the changes in the climate of that particular region, their effect on crops, productivity and their livelihoods, and what adaptation measures are being taken to deal with it.

Pilgrims: Haridwar and Rishikesh being holy places, are packed with pilgrims from all around the country. Therefore discussions

were also held at important pilgrimage sites on Clean Ganga-Nirmal Ganga. The team also spoke to them on the importance of climate change and how our indigenous practices are helpful in its mitigation.

Sages (Sadhus): Sadhus form a very essential part of the religious places and can be effectively tapped to motivate local people and tourists to take positive action for climate change. CEE Himalaya conducted a short event with Sadhus at Ganga Ghats to recognise the changes in climate over a period of time and their impact on the holy River Ganga. The connect between religious practices and climate change has been well documented by Sadhus.

Platform Activities

CEE Himalaya Team conducted activities on the platforms of the stations where SECAS halted. Activities included: group discussions on climate change on IHR; mini science experiments demonstrating different phenomena occurring in ecosystems and the impact of even slight climate change on them; discussions based on standees containing questions on environment; drawings, slogans, debates, speech and others.

In addition to this, CEE Himalaya was also able to conduct pre-train and platform activities in Jalpiaguri district of West Bengal during the SECAS visit ~ December 21-31, 2016.

8.2.2 Case Studies for UNESCO's Global Education Monitoring Report

CEE is developing a paper on The Leapfrogging Opportunity - Role of Education in Sustainable Development and Climate Change Mitigation for the United Nations Educational, Scientific and Cultural

Organization (UNESCO). This paper, with twenty one case studies identified on agriculture, energy and urban sectors from developing countries across the world, is a contribution to the UNESCO's Global Education Monitoring Report for the year 2016. Through these cases, the importance of education interventions and their explicit and implicit impacts - environmental (especially climate change mitigation), social and economic - have been highlighted.

8.2.3 Training Seminar for Journalists on Renewable Energy and Energy Efficiency

This project, funded by the Heinrich Boell Foundation, seeks to facilitate critical documentation of renewable energy and energy efficiency initiatives by journalists in India. As the key component of the project, the training seminar gathered journalists who have earlier written about renewable energies and energy efficiency, with a view to embed their knowledge better in larger contexts like sustainable development, international processes to foster renewable energy and energy efficiency (UNFCCC, IRENA, SE4all, SDGs) and gender challenges, and link the efforts with international examples like the German Energiewende and their take-aways for India. The seminar held on August 11-12, 2015, provided information to journalists about the state of the art, potential, policies and barriers of renewable energy and energy efficiency, and the resource scarcity of fossil fuels in India. CEE arranged a one day field trip to the solar canal in Baroda and a large scale biogas plant in Anand, Gujarat. These field visits were particularly appreciated by the participants for their unique technology adoption and their scale. At both venues, participants were guided by local personnel

from the respective projects who responded to the interested, critical and detailed questions of the journalists.

8.2.4 Eleventh Conference of Youth, November 2015

YOUNGO, an observer constituency of youth non-governmental organisations of the United Nations Framework Convention on Climate Change (UNFCCC), organises preparatory meetings called Conference of Youth (COY), which help build the capacity of youth to participate in the UNFCCC negotiation process. The Eleventh Conference of Youth (COY 11) was held simultaneously in Paris and different cities around the world, during November 26-28, 2015, prior to the Twenty First Session of Conference of Parties (COP 21) to UNFCCC.

In India, CEE and the Indian Youth Climate Network (IYCN) organised COY 11 at the CEE campus in Ahmedabad in which 150 youth participated. The aim of this regional conference was to help youth understand issues related to climate change, deliberate on different ways to tackle climate change, and inspire and build capacity to take positive initiatives in addressing this global challenge. The participants were introduced to the science of climate change, its impacts and adaptation and mitigation actions taken at international, national and local levels. Role play activities helped the participants understand the negotiation processes and issues at stake while taking decisions to address the challenges.

An input session on the importance of a communication strategy to generate support for the initiatives was also conducted. Participants from Ahmedabad and other COYs like Tokyo and Paris were connected to enable

interaction on various topics pertaining to environment and development. The inputs by participants were taken into consideration in the manifesto that was presented to the world leaders by youth representatives at COP 21.

8.2.5 Participation in Climate Summit COP21 in Paris, December 2015

A delegation from CEE participated as observers in the historic UNFCCC Climate Summit COP21 in December 2015 in Paris, which resulted in the Paris Agreement. CEE actively participated in the first ever held Education Day at the COP21 on December 4, 2015, highlighting the role of climate change education for the successful implementation of the objectives of the climate convention. This engagement built up CEE's relation with UNFCCC further and ensured future collaboration.

Moreover, the Parampara Catalogue was launched by the Hon ble Prime Minister of India, Shri Narendra Modi, at the India Pavilion of COP21 in Paris on November 30, 2015. The Parampara Catalogue, developed by CEE, is a collection of a range of climate friendly traditions and practices from across the country, which promote more sustainable lifestyles, sustainable production and consumption. The catalogue groups these practices of India under the themes of solar and wind energy, agriculture, biodiversity, food, health, shelter, textiles and clothing as well as water. These living traditions are an integral part of the social and cultural fabric of India. These traditions have been selected based on their relevance to climate change, their perceived usefulness in climate change mitigation and adaptation, and relatability to energy and water conservation, recycling and environment friendly lifestyles. CEE

distributed the Parampara Catalogue among the delegates at COP21 in order to spread the word about sustainable lifestyles, which was one of the main additions by India to the Paris Agreement.

8.2.6 Workshop Goal 13: Climate Action at the international Conference on Education as a Driver for Sustainable Development Goals

The Workshop on Goal 13 'Combating Climate Change and its Impacts', held in cooperation with the United Nations Framework Convention on Climate Change (UNFCCC) in six sessions during the international conference 'Education as a Driver for Sustainable Development Goals' on January 11-13, 2016 in Ahmedabad, discussed several aspects of the role that climate change education for sustainable development plays in meeting the climate change SDG and its targets as well as the Paris Agreement.

- (a) Up-scaling climate change from awareness raising to education within climate mitigation and adaptation projects as well as education for encouraging political action
- (b) The role of education in implementing the Paris Agreement and how to strengthen education at the UNFCCC negotiations (Article 6/ACE)
- (c) The role of education and communication by media and advertisement in impacting lifestyles
- (d) Effective climate change education for empowering children and youth
- (e) The means of implementation of climate change education for sustainable development



A diverse group of climate change educators, the Focal Point - Education, Training and Public Awareness of UNFCCC, representatives of Indian and international NGOs, researchers, entrepreneurs and students participated in the workshop. The central recommendation that emerged from the workshop discussion suggests that the national climate plans (Nationally Determined Contributions, NDCs, and the next round of Intended Nationally Determined Contributions, INDCs) should include an educational component to implement the targets.

8.2.7 Climate Action: India's Initiatives on Mitigation and Adaptation

CEE is preparing a compilation of India's Climate Action on mitigation, adaptation as well as skill building and sustainable lifestyles in a publication called Climate Action: India's Initiatives on Mitigation and Adaptation Database, for MoEF&CC. Selected initiatives by the central and state governments, companies, research institutes and NGOs are presented in the publication in short write-ups. A first draft has already been prepared and, currently, effort is on to review this draft

and to add further initiatives to present a comprehensive overview of India's climate action, for both national and international audiences in the final publication.

8.3 Industrial Pollution Prevention

Industrial Pollution Prevention (IPP) group started functioning in CEE in March 2015 and is involved in undertaking various programmes and projects in the field of environmental pollution control for different stakeholders, which include industries, common facility operators, representatives of associations, officials of the enforcing agencies, faculties and students of research institutes, universities, schools, colleges, environmental auditors, consultants, NGOs and others.

There are approximately 22,000 industries in the state of Gujarat in the large, medium and small scale sectors, categorised as Red, Orange and Green as per their pollution potential. These industries manufacture a variety of products and their categories include fertilizers, petrochemicals, refineries, thermal power plants, pulp and paper, pesticides, iron and steel, cement, dyes and dye-intermediates, chlor alkali, soda ash and numerous other chemicals. During their manufacturing processes, these units generate air, water and solid/hazardous wastes which are required to be treated and disposed of as per the standards specified in the environmental pollution control Acts/Rules/Notifications, in order to prevent and control environmental pollution.

It is imperative therefore that the stakeholders are regularly exposed to awareness, capacity building and training programmes in the field of environmental pollution control, to ensure better compliance of environment legislations

for a cleaner environment for us and, more importantly, for our future generations.

Vision & Mission of IPP

Vision: Enhanced compliance of environmental legislations by industries and common infrastructure facility operators; sustainable industrial development; and building the capacity of other stakeholders so as to improve the quality of environment in the state for us and for our future generations.

Mission: To improve the level of awareness among stakeholders and build their capacity by better communication and knowledge transfer, skill development, organising training programmes, R & D for waste utilisation, improved compliance through sustainable industrial development and thus improve the quality of environment.

To achieve these, IPP works in the following areas:

- Industrial Pollution Prevention and Control
- Cleaner Production in different industrial sectors
- Creating awareness, imparting training and building capacity of stakeholders in the field of environmental pollution prevention and control
- Minimisation of environmental impact and natural resource conservation
- Improving housekeeping practices in Industries
- Co processing and utilisation of wastes
- By-product recovery from wastes

8.3.1 Projects Undertaken by IPP

8.3.1.1 Awareness, training and capacity building programmes in the field of Industrial Pollution Prevention and Sustainable Industrial Development in partnership with National Environmental Engineering Research Institute, Nagpur (NEERI) and Gujarat Pollution Control Board (GPCB) for all concerned stakeholders.

- A workshop on Industrial Waste Water Treatment was organised on August 5, 2015. Renowned experts in the field of waste water treatment from NEERI, Central Pollution Control Board (CPCB), National Productivity Council (NPC), GPCB, Gujarat Energy Research and Management Institute (GERMI) and Atmiya Institute of Technology (AIT) addressed more than 215 participants about different aspects of industrial water pollution and control.
- The Aerospectrum-2015 was organised successfully on December 9, 2015, with more than 150 participants attending the programme. Air pollution control experts from NEERI, CPCB, National Institute of Occupational Health (NIOH), AIT, Federation of Indian Chambers of Commerce & Industry (FICCI), and GERMI explained different aspects of air pollution and control. The recommendations on reducing air pollution in the cities of Gujarat were sent to GPCB for implementation.
- A consultation programme cum workshop was organised with the representatives of Bhavnagar Rolling Mills Association to discuss and understand mitigation measures for air pollution caused due to S.S Rolling Mills at Bhavnagar.

- An awareness and training programme on cleaner production and H.W.Rules-2008 was held for more than sixty students and five professors from the environment, chemical, rubber and plastic engineering divisions of L. D. College of Engineering (LDCE) Ahmedabad.
- Wetskills - A bilateral skill development programme for 15 Dutch and Indian students from various disciplines was conducted from November 27 to December 11, 2015. Five topics related to water and waste water were selected for the study and field visits of the students. At the conclusion of the programme, they prepared reports and posters for presentation and the best project was selected through the pitch and poster method.
- A training programme on co-processing of hazardous waste in the cement sector was conducted for 50 students of LDCE Ahmedabad on February 18, 2016.

8.3.1.2 Other Projects Undertaken by IPP

- An MoU was signed with M/S Green Environmental Services Cooperative Limited (GESCSL) - a common effluent treatment plant (CETP) situated in Vatwa, Ahmedabad, for the establishment of a waste utilisation centre (WUC) at Gujarat Industrial Development Corporation (GIDC) Vatwa, to produce building materials from hazardous waste, viz. sludge from the CETP. IPP prepared a preliminary report and the detailed Project Report for the WUC project after a literature survey, discussions with technical experts and site visits to industrial establishment; these reports have been sent to GESCSL. Lab scale results reveal that the product meets with building material specifications

and Toxic Characteristics Leaching Procedure (TCLP) tests.

- The National Green Tribunal (NGT) Pune appointed the Head of IPP Group as the Court Commissioner to investigate and report about the issues of waste water treatment and disposal at GIDC Sachin - Surat. During the site visit to GIDC Sachin - Surat, more than seventy units of D&P were monitored along with a number of disposal areas of effluents in and outside GIDC. The report has been submitted to the court on March 11, 2016.
- IPP examined the facts related to the implementation of Zero Liquid Discharge (ZLD) system in the textile industries and clusters in response to the draft notification issued by the Ministry of Environment, Forest and Climate Change (MoEF&CC), Government of India. A report was prepared based on discussions with the members of the South Gujarat Textile Processors Association (SGTPA) held on March 14, 2016, which includes important issues like SWOT analysis, the global scenario of ZLD, challenges to ZLD, and data/feedback pertaining to field visits.
- IPP provided technical guidance regarding the procedure to be followed during ecofriendly idol immersion at the stakeholders consultation held by CEE team with Ahmedabad Municipal Corporation and GPCB.

8.3.1.3 Proposed Projects

South Gujarat Textile Processors Association (SGTPA) of Surat has requested IPP to

- Provide technical guidance to SGTPA for air, water and hazardous waste management for textile units of Sachin

- To prepare one textile mill as a role model for other textile units of Sachin for conservation and management of natural resources
- Develop guidelines for textile units for their sustainability
- Submit a feasibility report on the concept of ZLD in textile industry
- Aid in improvement of Air Pollution Control Mechanisms in textile units of Pandesara
- Study and improve performance of CETP Pandesara and suggest cost effective solutions

On the academic front, LDCE has requested IPP for technical support for two projects related to recovery and utilisation of by-product from wastes and also organising training programmes for their students. GSFC University has sought IPP's help for training programmes on environmental pollution control.

With industries, IPP is set to work with Gujarat Mineral Development Corporation (GMDC) in capacity building of their employees at different project sites; with FIA Saurashtra Centre for awareness and capacity building programmes on environmental legislation and management; with Naroda Enviro Projects Ltd. for providing techno-legal guidance for the establishment of a laboratory to carry out analysis of physico-chemical and biological parameters of the environment and preprocessing facility for hazardous wastes; and with common facility operators for evaluation and setting up of preprocessing facility for co-processing of wastes.

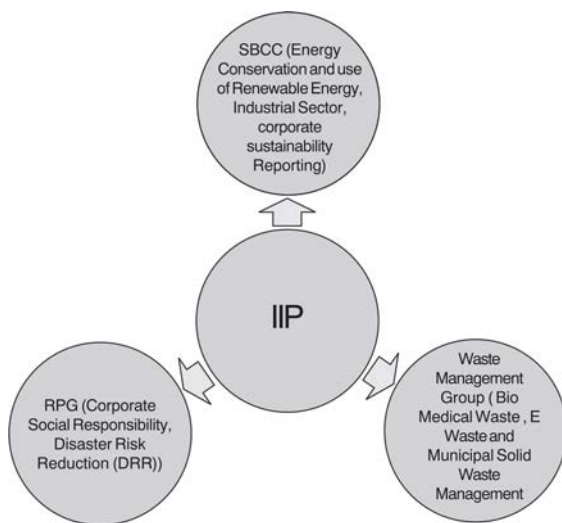


Figure 8.1: Internal Linkages

8.4 CEE Madhya Pradesh - Climate Change Sensitisation

Madhya Pradesh Clean Development Mechanism Agency (CDMA) commissioned CEE to develop knowledge products and undertake a public awareness campaign to help enhance understanding about climate change and actions for mitigation.

As a first step, CEE developed Climate Caravan ~ Hum Saath Chalein as the campaign identity for the products and awareness activities. Resource materials have been developed in Hindi and English on the causes and impacts of climate change and citizens actions for reducing greenhouse gas

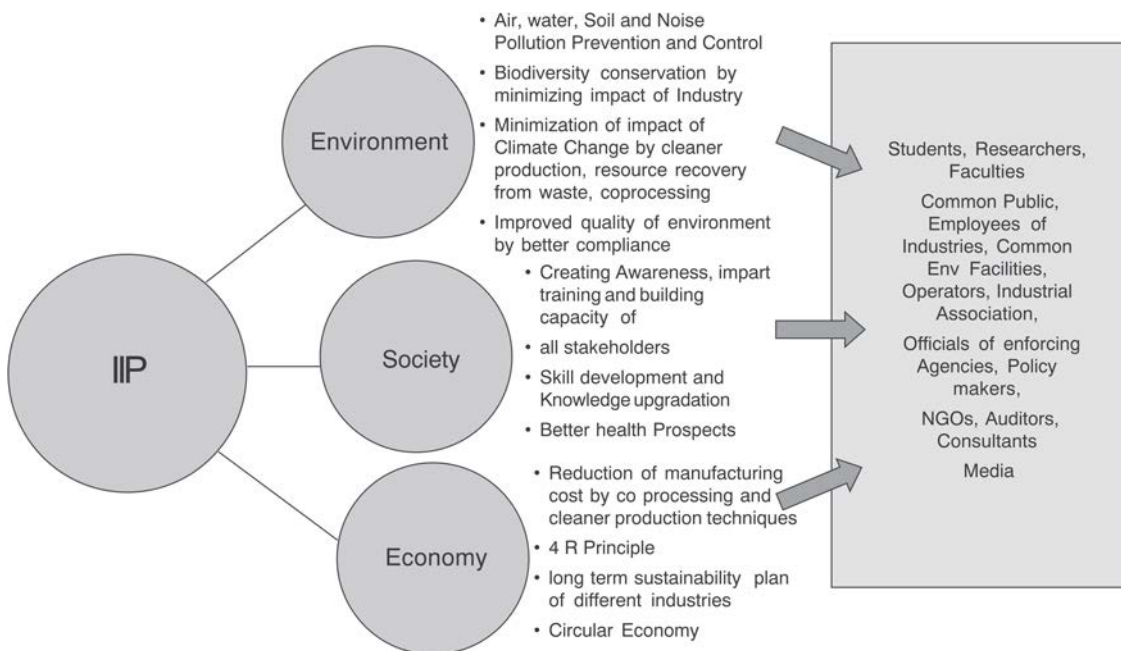


Figure 8.2 External Linkages

emissions. The main themes around which they are developed are:

- ¸ Science of Climate Change
- ¸ Energy
- ¸ Water
- ¸ Waste
- ¸ Transportation
- ¸ Lifestyles

The materials include a flyer, a brochure, a set of posters, standees and a year planner in both Hindi and English.

As a part of the public awareness campaign CEE conducted sessions aimed at various target groups:

- ¸ Exhibition of Sab Sath Chalein - Climate Caravan campaign for school students visiting Science Express Climate Action Special (SECAS) at Shivpuri railway station. With coordination support from MP CDMA a focused 2-3 hours session on how and in what measure do human activities and life style choices contribute to GHG emissions and their role in minimising the GHG emission through behaviour and lifestyle changes were conducted for schools visiting the train at Shivpuri, Morena, Bhind, Sheopur, Gwalior, Datia, Ashoknagar and Guna.
- ¸ An NGC teachers workshop in Bhopal
- ¸ A meeting with a group of women from economically weaker sections in Bhopal in partnership with Mahila Housing Trust
- ¸ A workshop with MP CDMA on access to energy at Maulana Azad National Institute of Technology, Bhopal
- ¸ A session on sustainable urban transport and street design with the School of Planning and Architecture, Bhopal

Sustainable Rural Development

9.1 Hingolgaḁh Eco-Development Programme (HEDPro)

Background

Hingolgaḁh Eco-development Programme, HEDPro, was initiated in 1986, in the areas surrounding Hingolgaḁh Nature Education Sanctuary at Jasḁan, in Rajkot District, Gujarat. The programme, which was initiated with 10 villages, has today spread to more than 40 villages, working for sustainability education with rural community. It is being implemented by CEE-Jasḁan Field Office. The major interventions are in the areas of village level institutional building for promoting sustained agriculture, sustainable livestock production, promoting Low External Input Sustainable Agriculture (LEISA), micro-finance, micro-enterprises development, water and sanitation, and partnership with government for mobilising financial and technical support.

The Jasḁan Block Office works as a Rural Knowledge Centre (RKC) for providing support services, guidance, reliable and need based information services, capacity building programmes and market linkage support, besides facilitating government programmes and schemes, and demonstrating various sustainable livelihoods options and.

Some of the major activities and achievements during the year are given below.

- Factors like climate variability, scarce natural resources, increasing input costs and fluctuating market prices in cash crops have been increasing the farmers vulnerability in the region. Dryland horticulture has been identified as one of the solutions to this situation. During the year 95 new orchards were initiated with support from CEE, who also developed

awareness and education programmes on this. CEE linked the motivated farmers with government schemes on horticulture promotion by helping them make online applications, submit required documents and complete the required formalities. CEE also helped farmers get quality saplings and provided technical guidance. Through such efforts, farmers have been able to avail approximately Rs. 20 lakh from government schemes.

- Since the inception of the programme in Jasḁan, promotion of organic farming has remained one of the thrust areas of CEE-Jasḁan. As a milestone achievement in this process, during the year, 105 farmers have applied for organic certification to the Government authorised certifying agency GOPCA (Gujarat Organic Produce Certification Agency). Under this scheme, two years will be considered as a conversion period and from the third year, these farmers will be able to market it as 100% organic produce.
- As is being done every year, CEE supported the self help groups (SHGs) and Paryavaran Vikas Mandals (PVMs) in direct selling of their value added and organic produce. Besides the Traditional Food Fair organised at Ahmedabad by Indian Institute of Management Ahmedabad (IIMA), the groups participated in 14 different fairs, making an earning of about Rs. 23 lakh.
- A decade after initiating the value added processing of the prickly pear, a wild cactus fruit, to make different products especially the prickly pear juice which has a wide consumer demand - the benefits are now being reaped by the SHGs. In the current year, in a landmark achievement, the SHGs

have tied up with an Ahmedabad based agro-produce marketing company, by which the SHGs will supply the fruit and the company will process, pack and market the products in the national and global markets. As a result of this, within just three months, the company has achieved sales of about Rs. 5 lakh, of which more than 50% will go to the rural women. This is a remarkable achievement in such a short time and will have a long term impact in energizing the rural economy, empowering women and conserving local biodiversity.

9.2 Gramshilpi

The Rural Programmes Group of CEE, in partnership with Gujarat Vidyapith, has been implementing the Gramshilpi programme since 2007. Every year a batch of graduate and post graduate students join the programme to pursue their career in and commit themselves to the cause of rural development.

The programme aims to provide extensive capacity building inputs and initial financial support to selected students of Gujarat Vidyapith to work towards holistic rural development. As of now, 45 Gramshilpis have joined the cause of rural development and 12 of them have settled down in villages, undertaking various developmental activities. They are paid a monthly stipend for their personal and programmatic needs during their initial two years.

Every year, CEE conducts a selection process for the students of Gujarat Vidyapith. After a 21 day contact session, the selected candidates choose a village from any of the three districts of the project, to take up activities. Their capacity building and need based training covers a wide range of relevant topics including skill modules. Motivational training was also added in the previous year.

During 2015-16, two post graduates were selected for the project as Gramshilpis.

The major thrust areas of the Gramshilpi s activities are education, health, sustainable natural resource management, promoting social equity and entrepreneurship support. In their adopted village, the Gramshilpi plays the role of a mobile information centre. They act as a guide to the villages in matters pertaining to education, career and administrative procedures, especially for villagers to get their lawful entitlements and other rights. They also provide updates regarding various rural development and agriculture schemes. Apart from this, those who have settled in the remote tribal areas are also working towards conserving tribal culture and practices. They also support migratory families by running residential facilities for their children and provide education.

Many of the Gramshilpis are working to ensure access to basic education in the tribal areas of South Gujarat. Others are engaged in activities related to health improvement, livelihood and employment generation in their villages. Some of them have also been conducting activities like storytelling and have opened a bookshop for children and youth in under developed



Gramshilpi Ashok's hostel

areas. One of the Gramshilpis, Nilam Patel, has been awarded with Jagrit Jan Sanman by Jagrut Jan Trust, Ambavadi, Ahmedabad for his commitment to the tribal people of Banaskantha District.

9.3 Environment Management Framework (EMF) for TNEPRP

CEE Tamil Nadu served as a State Environment Resource Agency (SERA) for Tamil Nadu Empowerment And Poverty Reduction Programme (TNEPRP), for the implementation of Environmental Management Framework (EMF) in three phases (Phase I: 2007 to 2009; Phase II: 2011-2012; Phase III: 2013- 2015). The outcomes are:

- 100% of the Common Livelihood Group activities now go through environmental appraisal as compared to about 50% in 2007-2008.
- Compliances with existing regulations have been ensured for 72 % of livelihood activities.
- 54 % of mitigation measures are being implemented.
- More than 800 eco -friendly activities have been adopted.
- 182 Project Officials and 1294 Field Functionaries were trained on EMF by CEE.

Based on these outcomes, a Working Paper on Environmental Management for Sustainable Rural Livelihood - Tamil Nadu Empowerment and Poverty Reduction Project was submitted for the Kudumbashree* International Conference (KIC) 2016.

*Kudumashree literally means prosperity (shree) of family (kudumbam). Launched by

the Government of Kerala in 1998 for wiping out absolute poverty from the state through concerted community action under the leadership of Local Self Governments. Kudumashree is built around three critical components: micro credit, entrepreneurship and empowerment.

9.4 Assessment of Extent of Community Dependence on the Coastal Ecologically Sensitive Areas (CESAs) in Gulf of Kutch & Gulf of Khambhat, Gujarat

During the year, CEE was entrusted with the responsibility to conduct a survey of coastal communities in the notified areas along the Gulf of Kutch and Gulf of Khambhat in Gujarat, for determining the extent and nature of communities dependence on the coastal resources, and obtaining their perception about the need and strategies for the conservation of sensitive ecosystems. The task was given to CEE by the National Centre for Sustainable Coastal Management (NCSCM) established by the Ministry of Environment, Forest and Climate Change (MoEFCC), Government of India. It was part of a larger study being undertaken by NCSCM on ecologically sensitive areas (ESAs) all along the Indian coast.

It was an intensive survey carried out in two phases, the duration of each phase being about two months. The survey covered about 4350 respondents from 440 villages: 118 villages of the Gulf of Kutch and 322 coastal villages of Gulf of Khambhat. Initial planning meetings were held between the CEE and NCSCM teams. It was a huge challenge to reach such a large area in a very short duration. To ensure accuracy of the survey, specialised digital tools and software were used. A team of

enumerators was selected, trained and enlisted for the survey.

Various innovative methods were used for a non-biased and representative sample selection, combining various methods such as participatory village mapping, resource mapping, case study and questionnaire based survey. District collectors provided permission for the survey and ensured cooperation of relevant government officials.

After gaining permission from the Sarpanch, the enumerators met the senior members of the village community and conducted a participatory mapping of the village. A rural resource map was prepared depicting the village commons, the Panchayat, common meeting places, wells, water bodies, grazing lands and others. A brief profile for each village was also prepared.

Based on the village map and resource maps, households were identified for the survey, ensuring a representative sample of geographical and occupational distribution. In the Gulf of Khambhat, an innovative star pattern was used by which seven households were selected in a zig zag manner from each village. Of these, three were from fishing community, two from livestock rearers or farmers and two from other occupations. In the Gulf of Kutch, 18 households from each village completed the survey forms, of which 12 represented direct dependence and six indirect dependence. It was made compulsory to include at least two women respondents and the village head in the survey.

The survey data has been handed over to NCSCM where it is being further analysed. As an overall outcome of the project, a framework for community based resource management with Climate Vulnerability and Capacity

Analysis (CVCA) specific to Gulf of Kutch and Gulf of Khambhat will be prepared. Further CEE is also working towards preparing a manual and guideline for multi-stakeholder surveys in CVCA, based on the experiences from this survey.

9.5 Pahel - Environmental Monitoring and Evaluation in Coastal Regulation Zone

Background

During 2013-14, CEE initiated the project Environmental Monitoring and Evaluation in Coastal Regulation Zone with the support of APSEZ (Adani Ports and Special Economic Zone) at Mundra in Kutch district, where a project office was established for this purpose. The project targeted 21 villages of Mundra Block.

The overall aim of this two year-long project was to involve different stakeholders in the monitoring of local sustainability concerns, and work towards addressing them in a participatory manner. Thus the project aimed to bring different stakeholders like industry, community, youth, schools and others on a single platform where sustainability dialogue can take place. Another key approach the project adopted was to involve college going youth in the sustainability monitoring aspects.

Progress and achievements during the year

As part of the project s objective to involve youth in sustainability monitoring, a group of third year students from Dhirubhai Ambani Institute of Information and Communication Technology (DA-IICT) ~ Gandhinagar conducted a socio-economic-environmental survey of the area, which was undertaken as part of their academic project work. Based on

their findings, a report titled Understanding Environmental Sustainability Concerns from Youth Perspective was prepared.

Another important aspect of the project was to involve the community in environmental monitoring. Based on these efforts, an interpretative report of the environmental compliance report submitted by APSEZ was prepared, titled Community Perspective on Environment Compliance ~ Interpretation Report. Based on this report, community level consultations were undertaken with different livelihood groups in all the project villages. A presentation based on the eight conditions mentioned in the Environment Compliance (EC) was prepared and people were invited to share their opinions, perceptions and concerns about these conditions with reference to their own experience and judgement.

More than 400 people ~ drawn from different stakeholder groups like farmers, women, livestock rearers, teachers, labourers and fishing community - participated in this series of consultations, which have initiated a constructive dialogue about the communities perceptions about the environmental sustainability of the area, its causes and solutions. The cross-sector approach provided glimpses into how different stakeholders perceive sustainability concerns . This also provided a direction for future course of action for different stakeholders to ensure sustainable development of the region.

The final report of this project has been submitted to APSEZ and discussions are on for a next possible phase, based on the insights drawn from this project.

10.1 UNESCO Chair on Education for Sustainable Development and the Human Habitat

The UNESCO Chair on Education for Sustainable Development and the Human Habitat was established with the aim of strengthening the role of education for sustainable development in human habitat and urban studies. The Chair programme creates opportunities for engagement of higher education institutions with citizens groups, local governments and other stakeholders by providing a platform for collaborative learning, research and action.

The UNESCO Chair is established at the Centre for Environment Education jointly with the CEPT University, Ahmedabad, and has partnerships with ICLEI South Asia and Swedish International Centre for Education for Sustainable Development (SWEDES), Uppsala University, Sweden.

It aims to integrate the component of sustainable development in all studies dealing with human habitat; and to build capacity of future professionals to address urban sustainability related issues in innovative ways and by making right choices or decisions.

The UNESCO Chair is set up with the following objectives:

- Develop and offer higher education programmes that enhance discussions on sustainability issues
- Provide a platform and opportunities to various stakeholders for collaborative learning, research and action to address complex urban sustainability related issues through a variety of courses

- Identify good practices/ case studies which can be included in curricula and teaching practice and to make these available through creating an interactive website
- Facilitate a global level internet-based discussion on sustainability in the urban context.

Activities under the UNESCO Chair during 2015-16:

10.1.1 Teaching Programmes at CEPT University

Regular course programme: Streets for people - offered as an elective by CEE and CEPT University since 2012

The Streets for People course was developed and offered in CEPT University, Ahmedabad; PVP College of Architecture, Pune; and D. Y. Patil College of Architecture, Pune, with a focus on engaging and working with community in designing sustainable transportation systems in cities. The course emphasises the concept of planning for people rather than planning for vehicles. The course is open to students across disciplines such as Planning, Architecture, Urban Design, Technology and Habitat Management at CEPT University. It is offered every year from July to December and has an intake of 50 students shortlisted from around 200 who apply for the elective. Interactive and theory sessions combined with experiential learning through project work form the pedagogy for this course.

10.1.2 Summer Programme

Reimagining Main Streets (2015): CEE and CEPT University developed a 5 credit course offered over three weeks from June 2015. The focus of the course was on reimagining streets

for multiple uses and understanding integration of historical sites in such a process. It aimed to introduce and assemble a targeted toolkit of resources from tools that have worked to revitalise cities by activating key centre city retail corridors or Main Streets. Exemplary precedents were studied to understand how combinations of these tools have created economically vital urban places through the integrated redevelopment of pedestrian-friendly main streets. Participants were introduced to urban experiences and professional expertise simultaneously, outlining and illustrating components of the multi-disciplinary toolkit of resources that can be applied to sustainably reactivate urban centres.

Students visited Main Street Programmes in Washington DC, and interacted with international institutions with expertise in urban issues such as the World Watch Institute and The World Learning during the first week to understand the processes these cities have gone through for holistic planning approach and draw learnings from these for comparison with Indian experiences.

The travel and studio based course encouraged students to apply lessons learnt from select international precedents to Indian cities. The course also provided opportunity to students to study main streets that have developed during different decades to understand historical contexts and relevance of ideas to the present. Students were provided with the skills to structure a sustainable integrated redevelopment programme that revitalises the city through the programming, architectural design, and management of priority main street segments.

Reimagining Main streets programme is planned to be offered each year as an

international programme involving a study tour to Washington D.C., USA. The first programme conducted in 2015 has helped identify partners and a well-structured programme is in place. Therefore, the same programme can be offered each year.

10.1.3 Research

CEE, with UNESCO and UNFCCC, has conducted a survey to identify case studies that demonstrate the role of education or education for sustainable development in climate change mitigation. Some case studies identified on transportation and carbon emission reduction that will be taken up for further study.

10.1.4 Key Conferences and Workshops Hosted by the Chair

Workshop on Urban sustainability ~ SDG 11

CEE organised the workshop as a part of the International Conference on Education as a Driver for Sustainable Development Goals held at CEE Ahmedabad from January 11-13, 2016. The Chair activities were presented during this workshop which focused on participatory governance and community engagement in urban planning and decision making processes.

Manekbaug Plot handed back to the Ahmedabad Municipal Corporation

CEE had developed an urban space in the Manekbaug residential area as a green forest over 18 years as a part of a partnership with the AMC. The forest named as Lokvan by the CEE was formally handed over to the AMC in a function organised at the plot on June 5, 2015. The Municipal Commissioner - Ms. D. Thara, the AMC Standing Committee Chairman, local ward councilors and users of

the green space were present for the function. The walkers association and the residents who regularly use the space took the responsibility of managing the forest and the adjoining garden. This is possibly the only green space in Ahmedabad managed through participation and ownership of the community.

10.2 Sustainable Urban Development In Pune

10.2.1 BRTS Promotion and Outreach Programme in Pune and Pimpri Chinchwad

The Rainbow Bus Rapid Transit System (BRTS) project is implemented by the two municipal corporations of Pimpri Chinchwad (PCMC) and Pune (PMC) and the Pune Mahanagar Parivahan Mahamandal Ltd, with financial assistance from the Central and State Governments, and the World Bank.

In December 2013, IBI Group (IBI) along with CEE, as a project team, was entrusted the task of implementing the Promotion and Outreach Programme (POP) for Pimpri Chinchwad BRTS. In early 2015, the PMC also commissioned the same project team to implement the promotions programme in Pune.

The Promotions and Outreach Programme aimed to promote the new BRT as well as provide a smooth transition from the existing regular bus services to the BRT system. An initial survey was conducted to assess public perceptions about the proposed BRT. An External Environment Analysis report was prepared for PMC and PCMC, presenting the social, political, institutional contexts of the project at that time. Based on the analysis, a detailed Communication Strategy was developed and implemented over a period of

several months till the launch of the BRT services in August 2015, as well as in the post-launch phase. Major components of the promotions and outreach included:

- Building a positive identity for BRTS and NMT, including system name and logo
- Position BRTS as a clean, modern, fast, safe and reliable transportation solution to the public
- Create awareness among the citizens about sustainable transport in general, BRT in particular
- Educate new riders on how to use BRTS
- Inform and prepare the public for the difficulties they are likely to face during construction and the transition to the new system, seek their cooperation, and receive their feedback
- Identify key stakeholders and build strong partnerships with media and civil society for smooth implementation of the project
- Induce a shift towards sustainable modes of transport
- Monitor, measure and evaluate the effectiveness of the outreach programme
- Various outreach materials were developed during the project period suitable for the communication requirements; these included films, radio jingles, posters, brochures, flyers, standees, hoardings, banners, power point presentations and others.

10.2.2 Comprehensive Bicycle Plan for Pune

The Pune Municipal Corporation has commissioned the consortium of Innovative

Transport Solutions Pvt. Ltd. (iTrans), Prasanna Desai Architects (PDA) and CEE for preparing a comprehensive bicycle plan for the city of Pune. The project began in December 2015 and has the following components.

- Creation of a city-wide cycle track network and cycle-safe streets
- A city-wide Public Bicycle Scheme with a detailed project report for a pilot project
- Bicycle Parking Facilities
- Integration with Public Transit
- Cycling Promotion
- Adoption and use of Design Guidelines for planning and implementing cycle-friendly infrastructure
- Institutional Mechanisms, Capacity-building and Financial Planning for implementing the plan
- Preparation of a communication strategy for promotion of cycling as a mode of transport

Public participation and stakeholder consultations will be undertaken to create consensus and active citizenship on the importance of promoting cycling in Pune. The components of user surveys, stakeholder consultations and preparation of a strategy for cycle promotion are anchored by CEE.

10.2.3 Hawkers' Space Design Exercise in Pune

An initiative was taken up for assessing and redesigning a short stretch of edge space along a BRT corridor in Pune, in November and December 2015. This was done in discussion with the municipal authorities, along with PVP College of Architecture and Prasanna

Desai Architects. The process included a detailed site survey, discussions with hawkers and vendors, study of pedestrian and vehicular movement and discussions with PMC officials, and detailed presentations to the Elected Representatives. Draft designs, which may be demonstrated on site before execution, have been submitted to the municipal authorities for trial and refinement.

10.2.4 Strengthening Green Federalism in Urbanising India

CEE has been supporting the PMC's participatory budgeting process since its inception in 2006-07, through assistance in developing the administrative systems, facilitator training and publicity. Over the last two-three years, CEE has reviewed the Pune participatory budget process and is now taking a few different initiatives to enhance citizens engagement in the city's governance. CEE is working with PMC to make the municipal budget and budgeting process more responsive to citizens' needs, easier to understand and participative.

In the period under report, two specific activities have been in relation with:

- Presentation of the budget statement and making it available in Excel and simplified forms
- Preparation of 'WISE', or the Ward Infrastructure, Services and Environment Infobase and Index, which may serve as a reference for allocation of public resources.

The budget statement and the WISE info sheets are available at the website 'Our Pune Our Budget' <http://ourpuneourbudget.in>

This activity has been taken up with support from the Hanns Seidel Foundation.

10.2.5 Baneri Bor

The Aundh Baner Balewadi area, now a focus of Pune's Smart City proposal, was once famous for its ber trees. It was even mentioned in the 3rd standard Geography textbook in the 80s. Locals report there were almost one lakh ber trees in Baner. Now, less than 500 remain.

Through a focused effort in 2015, CEE staff have mapped several of these trees, collected the fruit to record their weight, taste, colour and size. Saplings have been prepared and distributed to interested individuals, groups and institutions who commit to care for them. About 23 different Baneri bor varieties have been documented. This work builds on a CEE project for documenting and conserving mango, jamun, jackfruit, karvand varieties along with school students, teachers and villagers as part of the Western Ghats Eco-clubs Scheme.

Pravin Thete, the CEE colleague whose initiative this is, says 'As a child I enjoyed ber that tasted like wood apple. Unfortunately that tree was cut down for farm development. At that time I didn't understand the loss. After the wild fruits survey at CEE, I realised what a treasure trove of biodiversity we have. When I came to know about Baneri Bor, I felt I must try to revive this unique biodiversity feature of Pune. Imagine, with one lakh trees, how many varieties of ber must have been available right here in Baner! We want partners to help in database management and caring for the saplings.'

10.3 Urban Development Activities in the West Bengal

10.3.1 Capacity Building of Urban Local Body officials on Urban Climate

Change Resilience – Eastern Regional Hub

The rapid and unprecedented transformation of India's urban landscape has created an urgent need to promote a better understanding of key concerns related to climate change on how these will impact city planning, development and management of basic services.

The National Institute of Urban Affairs (NIUA) is a premier institute for research, training and information dissemination in urban development and management, and is supported by the Ministry of Urban Development, Government of India. NIUA is implementing a project on Urban Climate Change Resilience (UCCR) supported by the Rockefeller Foundation and is involved in capacity building of municipal officials in UCCR in different regions of the country through four regional institutions (RI). In the eastern region, CEE Kolkata is the RI coordinating the capacity building activities under this project.

CEE Kolkata, in a joint effort with NIUA and support from Rockefeller Foundation, organised the residential training programme on Urban Climate Change Resilience from April 27-29, 2015 at the Administrative Training Institute (ATI), Salt Lake City, Kolkata, for the cities from the eastern region of India. The workshop aimed to build capacity and improve knowledge exchange and networking on Urban Climate Change Resilience among the ULB officials from these cities.

The participants included the ULB officials from Howrah, Jorhat, Muzaffarpur, and Siliguri. They represented various sectors of planning, waste management, health, water supply and sewage. The workshop was

inaugurated by Dr. Subesh Kumar Das, Additional Chief Secretary, Government of West Bengal and Director General, Administrative Training Institute (ATI), Kolkata.

The training included topics such as effective planning for solid waste management, green buildings, wastewater management, and disaster management, and slum improvement in the context of climate change and the resilience measures to be taken in these sectors. A field visit to a site at Howrah, Pocha Khal, to show the innovative waste water management and remediation project was also a part of the training programme. The workshop consisted of lectures, participatory exercises for mapping vulnerability and probable climate change effects, and screening of documentaries.

The participants found the training programme very useful as it helped prepare them for informing and sharing their knowledge and experiences with the local people in their respective cities. The participants also said that the programme had made them aware of the significance of public participation in the mitigation and adaptation process. The mapping of vulnerabilities and capacity was very useful as it could be practically put into use in the preparation of the master plans and city development plans (CDP).

10.3.2 Study on Transport Governance Initiative in West Bengal

With the growing urbanisation, greater and more complex mobility needs and physical expansion of cities is being noticed, along with urban transport projects being increasingly executed through complex

public-private partnerships. It has become increasingly important to analyse the current decision making process with regards to urban transport solutions.

To study the same, World Resource Institute (WRI) and Parisar - an organisation based in Pune and CEE's partner for transportation related work - and CEE have developed a Transport Governance Initiative (TGI) toolkit to provide a framework for the evaluation of the governance process in urban transport sectors in the cities of Kolkata, Durgapur and Siliguri. The various indicators of transport governance being studied through the project include planning, executing authority, budgeting, policy, standard and regulations. CEE Kolkata conducted a baseline survey and assessed indicators which will help in mapping key facts about the transport sector and governance in the cities of Kolkata, Durgapur and Siliguri.

CEE Kolkata team also participated at the WRI India Sustainable Cities 4th annual conference, Connect Karo 2016, from April 5-7 2016, New Delhi and presented the WB cities assessments on Transport Governance.

11.1 SWACHA Shale – Karnataka

SWACHA Shale is a programme jointly initiated by CEE Karnataka, Sarva Shiksha Abhiyan (SSA) Karnataka and UNICEF, in collaboration with Zilla Panchayat, Ramnagar. The programme aims to reduce the risk of diarrhoea and thereby increase school attendance and enrolment by motivating and sustaining hygienic behaviour in students, especially hand washing with soap at critical times in schools. On a pilot basis 55 government schools of Solur Hobli of Ramnagar district in Karnataka were selected and the programme is being implemented in them since 2014. As part of this initiative, activities like sensitisation of various stakeholders of schools on the importance of Water, Sanitation and Hygiene (WASH) were carried out; child friendly innovative hand washing stations were constructed and were put to use; the waste water generated was used for establishing a kitchen garden; hygiene camps were conducted for teachers and children; and community outreach activities were executed. As a result, this programme is now being now linked with the Mid-day Meal scheme of the Karnataka government and is being implemented in over 7000 government schools in the state.

The programme is also acknowledged as a Flagship Project for its role in Contributing to Community Engagement in the field of Health and Nutrition by the United Nations University Institute for the Advanced Study of Sustainability (UNU-IAS).

11.2 WASH with Akshaya Patra Foundation – Rajasthan

Health and hygiene are strongly interlinked with learning, as illnesses related to water, sanitation and hygiene affect a child's

attendance and performance. Children often fall sick in schools as such illnesses can spread very fast with them closely confined together for many hours a day, often in poor hygienic conditions. Evidence shows that water, sanitation and hygiene (WASH) education in schools can improve attendance, health and cognitive development. It is therefore important that schools provide a safe, healthy and comfortable environment to the children, where they can grow, learn and thrive.

CEE, along with Akshaya Patra Foundation, is implementing a small initiative on WASH in 45 schools of Jaipur, Rajasthan. The objectives of the project are:

- To develop a system for the internalization of WASH practices by the students in selected schools, through the creation of an effective and sustainable system and demonstration of a proper hygiene facility, and correlating the same with the curriculum
- To establish a WASH council for ensuring hand washing practice in the schools
- To develop and demonstrate the use of a hand washing kit in schools
- To develop, demonstrate and distribute a personal hygiene kit to each student

The key activities carried out in 2015-16 include:

Block level Principal Workshop - A day long workshop for principals and government officials was organised in Chaksu and Sanganer blocks of Jaipur to orient the participants about the project and also to obtain their support for the project implementation. The workshop included a brief presentation about the project with its objectives and main activities, followed by a

discussion on school level implementation. The execution plan and the schedule for school visits were prepared during the workshop, which was attended by 39 principals of schools from these blocks.

School Visits ~ CEE staff visited all the 45 schools to facilitate the activities. During the visits, games were used to create awareness in children on the importance of sanitation and personal hygiene. Personal hygiene kits were distributed to all students followed by a demonstration session on how to use them. A student-led WASH council was established in each school during this visit, and an orientation session held for the council members, explaining their roles and functions including maintenance of daily records related to personal hygiene as well as water related issues in schools.

Information, Education and Communication (IEC) material to strengthen the effort and for effective delivery of message had been developed for the project in the form of a poster focusing on personal hygiene, which was also distributed to the schools.

11.3 Swachh Bharat Swachh Vidyalaya WASH Initiative – CEE Central

CEE Central has been working with corporate partners to strengthen water and sanitation improvement programmes for schools. CEE's approach is to support schools in participatory assessment of their water and sanitation conditions, and help the schools along with the community and government administration to set up improved infrastructure as well as management and education protocols for sustained use and upkeep.

The Lady Bamford Charitable Trust (the LBCT) is an in-house foundation of JCB India Limited, through which the company implements its Corporate Social Responsibility (CSR) projects.

CEE and LBCT have joined hands to implement Swachh Bharat Swachh Vidyalaya project in 30 schools of Maharashtra, Rajasthan and Haryana. CEE is building the capacity of the LBCT staff on creation of baseline data, engaging whole school and whole systems, and setting up effective monitoring and evaluation methods. The learning from the pilot phase will be converted into a Diploma in WASH for teachers and development professionals working on WASH in schools.

11.3.1 Swachh Bharat Swachh Vidhyalaya – Rajasthan

CEE and Lady Bamford Charitable Trust (LBCT) are jointly implementing the Swachh Bharat Swachh Vidhyalaya project on water, sanitation and hygiene (WASH) education in schools of Jaipur, Rajasthan, contributing to the Swachh Bharat Abhiyan.

Under the project, CEE carried out an orientation programme for LBCT staff to build a conceptual understanding of WASH and



students demonstrating correct handwashing steps

the whole school approach. During the workshop, a field level demonstration of green school audit was carried out in a participatory mode involving students, teachers, school management and community. For this purpose, a green school audit format was developed and explained to the participants. The survey report will be analysed to obtain baseline data of the school, based on which a school specific strategy will be worked out for further action under the project.

11.4 Daily Handwashing for an Ailment-free Life (DHaAL) – Assam

CEE Northeast supports SSA and UNICEF in developing 322 scalable model schools on proper hand washing practices so as to ensure sustainability, and address operation and maintenance (O&M) issues through:

- Augmenting hand washing facilities in 322 schools
- Hand holding of teachers
- Training of School Management Committee (SMC) members, students councils, mothers groups and mid- day meal cooks
- Ensuring availability of soap for hand washing
- Linking the schools with Child Friendly School System (CFSS) model schools who are already developing good practices in WASH

District level interventions were undertaken for ensuring internalisation of the monitoring mechanism through

- engaging in dialogue with the SSA district and block level functionaries including District Programme Officer ~ Community

Mobilisation (DPO-CM), Block Elementary Education Officers (BEEOs) and Cluster Resource Centre Coordinators (CRCCs) for time allocation for hand washing before Mid Day Meal (MDM)

- involving Assistant Block Resource Coordinators (ABRCs) and CRCCs in monitoring

CEE also undertook state level advocacy by linking the DHaAL project with the WASH Task Force and Working Group.

The project activities and outcomes included:

- Installation of 322 Handwashing Stations in 100 project schools
- Sensitisation meetings in 322 schools about the importance of WASH in Schools ~ more than 10,000 children were sensitised to take positive action in WASH related issues.
- 644 meetings for stakeholders in 322 schools ~ more than 1000 SMC members were oriented on the O&M of WASH facilities in the schools while more than 1000 members of Mothers Groups were encouraged to participate in the monitoring of WASH facilities and practices; Mid-day Meal cooks in the 322 schools were also oriented in WASH aspects.
- Support to SSA

During the course of the project, a group of well-trained fabricators have also been developed for the installation of WASH facilities.

11.5 Nirmal Vidyalaya Puraskar

This project was aimed to aid the Assam state government and SSA in selecting schools for the Nirmal Vidyalaya Puraskar (NVP).

The project involved:

- Pre-scrutiny of nominations received from schools
- Shortlisting of 30 schools out of 135 nominations
- Physically visiting the selected 30 schools and verifying the details in the nominations
- Shortlisting 10 best schools out of the 30 visited and preparing reports on them
- Presentation on the best 10 schools to the State Level Wash in Schools (WinS) Task Force

The NVP Assam 2015-16 assessment process involved the following steps:

- Self-nomination by schools in the prescribed format
- Verification by Block NVP Committees and forwarding of five nominations from the Block to the District Mission Office

- Verification by District NVP Committees and forwarding of five nominations from the District to the State Mission Office
- Appointment of CEE Northeast as the external competent agency by the State Mission Office
- Pre-scrutiny of the nominations received and preparation of a list of top 30 schools (finalists) based on cut off marks at 90
- Visit to the 30 finalist schools by CEE teams and field verification of the 53 parameters as per the NVP Assam Guidelines ~ digital documentation of the WASH facilities were also carried out in these schools

Sixteen schools that qualified for the NVP were selected based on this assessment out of which 10 will be awarded by SSA in June 2016.

12.1 Common Healthcare waste Appropriate Management Plant

The Waste Management Group of CEE has been implementing a project Healthcare Establishment Waste Management and Education Programme (HEWMEP), as a part of which a Common Biomedical Waste Treatment Facility called CHAMP, was set up in Kalaburagi, Karnataka in May 2005. The CHAMP facility has been successfully collecting, transporting, treating and disposing the collected biomedical waste of Kalaburagi City Healthcare Establishments (HCEs) since the last 10 years.

CEE CHAMP covers 188 bedded HCEs and 519 non-bedded HCEs of the Kalaburagi district. CHAMP has extended its services to all the HCEs in Sedam, Jewargi, Afzalpur, Chincholi, Aland and Chittapur talukas of the district. CEE conducted around 250 on-site orientation programmes for medical and paramedical personnel of the city and in the talukas during 2015-16.

Around 337 students and 30 faculties from KBN Medical College, MR Medical College, HKES BHMS College, HKES Nursing College, Syed Barey Degree College, and HKE S Dental College from Kalaburagi, visited CEE's CHAMP facility during the year. Four officials from Department of Science and Technology, Government of Goa also visited the CHAMP site to understand the working model and economics of the plant. Thus, apart from providing services to the healthcare establishments of Kalaburagi city, it also serves as one of the best demonstration model for the students and visitors, to acquire adequate knowledge on the operation of a common biomedical waste treatment facility.

12.2 Source Book on Solid & Liquid Waste Management in Rural Areas in India

The Ministry of Drinking Water and Sanitation (MDWS), Government of India, granted a project to the Waste Management Group of CEE to prepare a source book on Solid & Liquid Waste Management in Rural Areas in India. The source book aims to serve as a handbook and manual for rural communities to create mass awareness about the health and environmental impacts caused by improper handling and management of waste, and educate all the stakeholders about the need and importance of a proper waste management system with due emphasis on its relation to health and environment. It also aims to bring about a change in the thinking and perceptions among the rural communities about the value of hygiene and sanitation, by discouraging open defecation, encouraging construction and use of individual/ group toilets in all the villages and sharing information about systems for treatment of human and animal excreta using anaerobic and aerobic systems.

CEE, in consultation with the MDWS and its consultant experts, finalised the content and completed the writing of the source book. The source book includes chapters on integrated solid waste management, waste recycling, simple technologies like composting and biogas generation and use of treated black and grey water in rural areas. The source book also emphasises the need to have a participatory approach for an effective waste management at the community level. Case studies from across the country have been included in the source book, with examples like the eco-recycling unit set up by CEE mentioned as an up-cycling method for managing waste polybags and paper in the rural areas.

The source book was released on April 21, 2015 by MDWS during a national workshop on Solid and Liquid Waste Management in Rural Areas. The source book has been utilised in trainings imparted to 20 NGO partners and is also available online on the Ministry website.

12.3 Stakeholders Consultation Meeting on Eco-friendly Ganesh Utsav

A stakeholders meeting was conducted in August 2015 at CEE Ahmedabad, with the participation of local artisans, the Gujarat Pollution Control Board (GPCB), Urban Community Development (UCD) of the Ahmedabad Municipal Corporation (AMC), Gujarat Maatikam Kalakari and Rural Technology Institute (RTI) which organises training programmes in clay idol making for the artisans, National Institute of Design (NID) and CEE. The meeting was a part of the MoU signed between GPCB and CEE to find an alternative solution to the material being used to make Ganesha idols. The meeting focused on issues related to idol immersion, implementation of ideas for ecofriendly ways

of idol immersion, new initiatives like the papier mache Ganesh idols developed by NID, the toolkit developed by the RTI for artisans to make clay idols, and a video for spreading awareness on eco-friendly methods. The meeting also discussed the challenges faced by the city due to idol immersion and sensitivity issues involved due to the religious sentiments attached to the festivals.

The outcomes of the meeting were as follows.

1. CEE, along with NID, would conduct workshops for art teachers of 10-15 schools to train them on making papier mache idols.
2. The group would support AMC and GPCB to develop an immersion plan for the city so that minimum idols end up in the river.
3. The group would promote and sensitise people about clay idols through media stories.
4. NID would conduct further research on making papier mache idols durable and easily dissolvable.

13.1 VIRASAT: Documenting and Conserving our Living Heritage

Since 2012-13 CEE has been collaborating with Gujarat Biodiversity Board to facilitate the formation of Biodiversity Management Committees (BMC) and preparing People's Biodiversity Registers (PBRs) in the rural areas of Gujarat. Through the Biodiversity Conservation Act of 2002, the National Biodiversity Board and the respective state biodiversity boards are entrusted with the task of formation of village level BMCs as custodians of local biodiversity and associated traditional knowledge. The BMCs mandate also includes the documentation of local biodiversity and traditional knowledge in the form of People's Biodiversity Registers. Thus each village should have its own BMC and PBR, which is a herculean task.

In 2012, Rural Programmes Group of CEE-Jasdan initiated Phase I of the project VIRASAT: Documenting and conserving our living Heritage with the collaboration of Gujarat State Biodiversity Board in 10 villages of Jasdan Block in Rajkot District, Gujarat. In Phase II in 2013, the project was initiated in 25 more villages. During the current year, PBR preparation was completed in these 25 villages, bringing the number of villages covered to 35. BMC preparation has now been initiated in 15 new villages of the same block in February 2016.

The main aim of the project was to facilitate formation of BMC at each Gram Panchayat and provide orientation to the members. The major task after this was to survey and collect data on the village biodiversity and prepare PBRs broadly covering aspects like agro-biodiversity, domesticated animals, wild biodiversity, medicinal plants, grasses, trees, climbers, wild animals, aquatic biodiversity

and others, and also document the traditional knowledge related to biodiversity in the specified format.

PBR preparation is a highly educative and participatory process. A number of approaches are being tried to elicit the community's knowledge about local biodiversity and associated traditional knowledge. Various competitions for the schools, awareness campaigns with rural community, initiating intergenerational dialogue, and the involvement of all communities - especially landless forest dependents, hunters and gatherers, pastoralists, women and traditional healers - were crucial for ensuring the most reliable documentation of local biodiversity and associated traditional knowledge. CEE team, local experts and subject experts were also involved in the process.

The project provides a unique opportunity to create biodiversity centred dialogue, education and awareness programme for long term sustainability of rural livelihoods and conservation of biodiversity.

13.2 Education in Biodiversity Conservation

United Nations Convention on Biological Diversity (CBD) at the 10th meeting of the Conference of Parties (COP) to CBD, at Aichi Prefecture in Nagoya in Japan, spelt out a 10 year strategic plan for biodiversity conservation. The plan was followed by 20 measureable targets, known as Aichi Biodiversity Targets which are to be achieved by 2020. CBD has set education as one of the important targets:

By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably ~ Aichi Biodiversity Target 1

In this context, CEE has signed a Memorandum of Understanding (MoU) with the CBD Secretariat to cooperate, collaborate with and facilitate the educational efforts of CBD in the promotion of Aichi Biodiversity Targets. Following this, CEE has developed and implemented a number of programmes.

13.2.1 Green Wave 2015 – International Day for Biological Diversity (IDB) Celebrations in India

Green Wave is a global biodiversity campaign to educate children and youth about biodiversity through tree planting. CEE South promoted and popularised the campaign on May 22, 2015 marking the International Day for Biological Diversity (IDB). Students, teachers, government institutions, NGOs and business houses participated in the campaign.

About 2610 people from across India planted more than 1000 trees on May 22, 2015. The plantation activity was carried out in a wide range of habitats like coasts, Western Ghats, Himalayas and semi arid parts of the country.



Figure 13.1: Green wave action in India

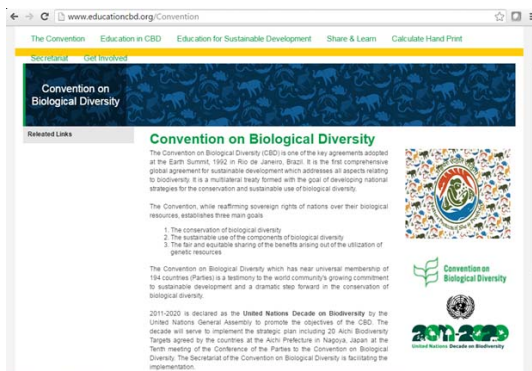
Some of the saplings planted were Night Jasmine (*Nyctanthes arbor traits*), Bahera (*Terminalia Billerica*), Plum (*Prunus domestica*), Orchid tree (*Phanera variegata*), Indian Spurge tree (*Euphorbia Neriifolia*), Neem (*Azadirachta Indica*), Mango (*Mangifera Indica*), Bauhinia (*Bauhinia divaricata*), and Banyan Tree (*Ficus benghalensis*). In all, 147 schools, 17 NGOs and 10 government offices participated and more than 1000 tree saplings were planted.

Green Wave Campaign in the Northern Region

CEE North conducted Green Wave activities in the northern states of Uttar Pradesh and Bihar. In spite of the holidays in schools, the network of teachers, master trainers and NGOs were invited and took part in the campaign. Over 40 schools participated in the campaign from seven districts, viz. Bareilly, Pilibhit, Lucknow, Bahraich, Gonda, Meerut and Muzaffar Nagar. In Bihar, 10 schools participated from two districts: Bettiah and Rohtas.

13.2.2 Designing and Launch of the Website - www.educationcbd.org

CEE has designed an interactive website for managing a database on biodiversity education in order to provide an exclusive



global platform on ESD to facilitate the implementation of Aichi Biodiversity Targets.

The website allows collaboration on foundational research, engaging relevant partners and stakeholders. It also allows for wider sharing of information, learning, implementation and scaling up of best practices.

The website was launched at the International Conference on Education as a Driver of Sustainable Development Goals held during January 11-12, 2016 at CEE, Ahmedabad.

13.2.3 Hand Print for Change Project

The planning meeting for the programme Hand Print for Change was conducted by CEE South with support from Novozymes South Asia Private Limited. The programme focuses on project based learning to enhance students understanding of sustainable development by blending science and social science concepts. The broad themes to be covered are Biodiversity, Food, Energy, Waste and Water and Sanitation. The programme is being offered to schools having standards 7, 8 and 9. In this academic year (2016-2017), the programme will be offered to selected schools in the five southern states of India, i.e. Karnataka, Andhra Pradesh, Telangana, Tamil Nadu and Kerala.

13.3 Ganges River Dolphin - Conservation Education Programme

Based on Phase I experience, CEE is implementing Phase II of the Ganges River Dolphin programme with support from the National Mission for Clean Ganga, National Ganga River Basin Authority under the Ministry of Water Resources, and Ganga

Rejuvenation and River Development. Phase II takes up the project titled "Educating Schools and Community for sustainable actions for conserving the habitat of Ganges River Dolphin along the Ganga River Basin".

As part of school component, CEE North is working on 20 locations along the Ganga Basin covering 10 locations each in Uttar Pradesh and Bihar; and under the community initiative, CEE North is working with five villages each at Bahraich and Bettiah in both these states. The community interventions being taken up under the project are described below.

13.3.1 Community Interventions

Project Field Offices and Awareness Activities: In 2014, CEE North had opened field offices in both the project locations in Uttar Pradesh and Bihar. CEE Bahraich Project Office in Uttar Pradesh and CEE Bettiah in West Champaran district of Bihar have been established for the implementation of the community component in five Gram Panchayats in each location. The project office team conducted a series of awareness events and meetings in the villages. In each village, a committee called Souns Sanrakshan Samiti (Dolphin Conservation Committee) was formed to discuss concerns and identify common interest groups. Beneficiaries were identified from these groups for various demonstrations.

Capacity Building Programmes: The CEE team facilitated a series of capacity building programmes in both the project locations. Members for training/exposure visits were selected through village level meetings in all the project villages, with assistance from youth volunteers and the committees. An exposure visit cum training programme on organic farming was conducted in June 2015 at Bicchia,

Katerniaghat in Bahraich. A group of 20 farmers was taken from the project villages to the location where the expert agency DEHAT conducted the exposure visit and training.

In Bettiah, a week-long training on organic based vegetable cultivation and nursery development with bank linkage was conducted at Patjirwa, Bettiah, a project village, in June 2015. This training was conducted in collaboration with the Central Bank Rural Self Employment Training Institute (Cent-RSETI), Bettiah. More than 30 farmers participated in the workshop and benefitted from the experts inputs and obtained information on innovations.

In August 2015, a training programme for youth was conducted on Disaster Risk Reduction focusing on flood response and rescue at the village level, with the objective of training and orienting a Youth Task Force for mainstreaming community based disaster risk reduction (CBDRR) initiatives for the flood and fire prone project area of Baundi Cluster. More than 15 youths and community members from project villages participated in the training.

Field level training and demonstration for farmers on organic based riverbed cultivation, composting and demonstration of bio-pesticides was conducted at all the project villages of Bahraich during January 2016. About 160 farmers were benefitted by this field level training programme.

Field level training based on mushroom cultivation was also conducted at the project villages of Bettiah in January 2016 by CEE and external experts, with the aim of empowering women through capacity building. The training was organised in all the five project Panchayats, viz. Chaumukha, Pakhnaha, Uttari Patjirwa, Surajpur and Bhawanipur, in which more than 70 women participated.

A six day training programme was conducted in Bettiah for selected marginal farmers and fishermen from dolphin project villages on Animal Husbandry and Dairy Farming, in association with the Central Bank of India - Rural Self Employment Training Institute, Bettiah (an institution of the National Institute of Rural Development), at a project village Chaumukha, Yogapatti during March 2016, to provide technical knowledge on animal husbandry and low cost dairy farming. The training, in which more than 32 selected farmers and fishermen from the Dolphin project areas participated, laid emphasis on capacity building of marginalised communities of riverside areas.

Formation of Souns Sanrakshan Samiti and Meetings: Souns Sanrakshan Samiti (Dolphin Conservation Committee) were constituted under the programme to bring community members together and raise their awareness on the conservation of Ganges river dolphin by adopting an approach of inclusive development of riverside communities. Souns Sanrakshan Samiti (SSS) included members from marginalised communities, women's groups, youths and representatives of Panchayat Raj Institutions, in the intervention areas of the Dolphin programme. Representation of women in the committees was ensured so they would participate in the decision making process, their inputs would be obtained and concerns recognised. Seventeen Souns Sanrakshan Samitis - five in UP and 12 in Bihar - have been formed, with the members helping in bringing people to the meetings and conducting awareness campaigns. They have also agreed to demonstrate organic farming practices.

Demonstration of Sustainable Options in Agricultural and Fishing Practices - Vermicomposting: As a part of the project, CEE

demonstrated 43 units of vermicompost pits at both the field locations in UP and Bihar, to promote organic farming on the river banks of targeted project villages, with a view to reduce the use of pesticides and chemicals on river banks. Vermicompost pits were constructed with financial support from the project for the selected beneficiaries and earthworms suitable for the area were provided to them. A good amount of compost is now being produced now from these pits and is being used in the farms and for riverbed farming and vegetable cultivation with encouraging results like improvement in soil quality, which has also helped motivate other farmers.

Demonstration of riverbed farming, vegetable and fruit tree plantation: During the project, CEE had observed that most of the farmers were using heavy pesticides and chemicals in the cultivation of watermelon and muskmelon on their farms on the river bank. The runoff of these pesticides and chemicals were adversely affecting the ecology of the river. More than 50 farmers were selected as beneficiaries for the organic cultivation of watermelon and muskmelon on the river beds of the project villages and seeds provided to them. Farmers have received a rich yield of crop from their land as a result of this project.

The CEE team has formed groups of women to promote kitchen/backyard gardening in the project village of Baundi, and fruit trees were given to their households which would also lead to improvement in intake of nutrients in women and children. More than 70 households were provided with these plants in both the project locations in UP and Bihar.

Beneficiaries identified on the basis of their interest, landholding and availability of organic manure, were encouraged to grow organic based vegetables in their fields. Seeds

of different vegetables like onion, lady's finger, pumpkin, cauliflower, potato, bitter gourd, bottle gourd, and others were distributed to the farmers for demonstration, with the help of Souns Sanrakshan Samitis. The farmers have obtained a good amount of produce through this, even without the use of fertilizers and pesticides. It was a very successful demonstration as evidenced by farmers being inspired to undertake organic cultivation of other crops also.

Similar demonstrations were undertaken in Bettiah project villages also, with banana and papaya being cultivated by a few committee members to show the potential in other produce as well.

Promoting use of Bio-pesticides: Farmers were encouraged to adopt bio-pesticides using locally available materials, thus promoting another aspect of organic farming. Various methods were demonstrated by the CEE team with the help of experts to convince community members to adopt them in their farming practices.

Community Level Awareness Initiatives: CEE field team, at both the Dolphin locations in Bahraich and Bettiah, organised community based awareness campaigns and rallies on the occasion of important environment related days like World River Day, World Environment Day, International Day for Biological Diversity, Dolphin Day, Earth Day and Turtle Day. Local youth, farmers, fishermen, government officials and other key stakeholders were sensitised about the current issues related to the environment and motivated to work for the conservation of biodiversity around their villages. Regular meetings, rallies and consultation amongst the community members has encouraged the community members to take up village level conservation initiatives.

Initiative taken by Youth Volunteers: In the conservation of Ganges river dolphin, youth engagement has been considered an important aspect; youth volunteers are responsible for generating awareness on the importance of environment and river biodiversity, building networks with various stakeholders and community groups (farmers and fishermen) and acting as change agents for improving hygiene and sanitation.

CEE field teams at both Bahraich and Bettiah, interacted with several youths during community meetings to identify suitable and interested candidates for selection as youth volunteers. Six youth volunteers in Bahraich cluster and five in Bettiah cluster have been selected and are working at the dolphin project villages with the community to organise regular meetings of Souns Sanrakshan Samitis (SSS) formed in each village, and to keep a regular vigil on illegal activities around their villages.

Ecotourism based activities: The CEE team identified a location each in both the states for promoting ecotourism activities focused on dolphin education. Katarniaghat Wildlife Sanctuary in UP and Valmiki Tiger Reserve in Bihar have been identified for the promotion of dolphin focused ecotourism, with the help of eco-development committees. The CEE team held meetings with the respective State Forest Department and Wildlife Division to plan and initiate activities. To engage the local community, CEE team conducted meetings with eco-development committee members and local youth to assess need and enlist possible interventions. Life jackets and an ecotourism brochure has been developed for both the sites.

Community Educational Material: To create awareness about the river dolphin, various kinds of resource material has been developed focusing on the interventions of the project. A

poster was developed for the rural community to understand the species. Project intervention boards were developed for display at the villages which would create awareness among the villagers and other stakeholders about the initiative. A booklet on organic farming and alternative livelihood option was developed for community members to guide them on adopting these practices.

13.4 Prakriti Bus - A Mobile Exhibition on the Biodiversity of Uttar Pradesh

It has been agreed globally now that the path to sustainable development is deeply connected with biodiversity in several ways. Biodiversity forms the critical foundation for human well-being and sustainable development. To take necessary steps to conserve biodiversity and to maintain the life support system, it is important to have participation of people. The Aichi Biodiversity Target 1 sets an agenda that by 2020, at the latest, people are made aware of the values of biodiversity and the steps they can take to conserve and use it sustainably. With this background, the Convention on Biological Diversity (CBD) has set education as top priority in the Strategic Plan for Biodiversity 2011-2020 which decade is also declared as the United Nations Decade on Biodiversity (UNDB 2011-2020).

Apart from focused initiatives being taken at the global and national levels by various UN organisations, governments and non-governmental organizations, biodiversity has also been acknowledged in the overall sustainable development agenda. The Sustainable Development Goals (SDGs), which are set to be achieved during 2015-2030 also recognise the relevance of biodiversity for the achievement of sustainable development.

The Uttar Pradesh state government has recognised the role of education and communication in promoting awareness and understanding about conservation of biodiversity. In 2014, the Uttar Pradesh State Biodiversity Board, University of Lucknow and Centre for Environment Education joined hands, as part of the Regional Centre of Expertise (RCE) on Education for Sustainable Development (ESD), to initiate a mobile exhibition on the unique biodiversity of the state.

As part of the initiative, with the technical and financial support from Uttar Pradesh State Biodiversity Board (UPSBB) and the University of Lucknow, CEE developed a mobile exhibition bus named Prakriti. The aim of this mobile exhibition was to reach out to children, youth and the general public for raising their awareness about the rich biodiversity of the state. This bus focused on sensitising visitors to their immediate environment, biodiversity and cultural heritage. Through this exhibition, positive action for sustainability in the form of Hand Print actions were also promoted where children, teachers, youth and the general public were guided to work on biodiversity conservation initiatives at the local level.



St. George's College, Baluganj, Agra as on 15.12.2015

This mobile exhibition started its journey in August 2014 from Lucknow. During 2014-15, Prakriti Bus travelled to four districts of Uttar Pradesh covering Lucknow, Barabanki, Kannauj and Unnao. Since its launch, the bus has been visited by 83,044 visitors including students, teachers, community persons, officials, media, youth and others. The bus has travelled to over 178 schools and inter colleges.

With the bus completing its first phase in July 2015, the next phase is being continued with support from the Board and University. The bus has received very encouraging responses wherever it has visited. Till March 2016, the bus has visited 358 schools and has had over 1,88,527 visitors. It has also been shown to communities in urban and rural areas and has received positive reviews from everyone who has visited the bus.

13.4.1 Journey of the Mobile Exhibition

The innovative mobile exhibition bus continued its journey in the State and received an overwhelming response from schools and the community. During the year 2015-16, Prakriti bus has travelled to seven districts of Uttar Pradesh: Hardoi, Sitapur, Kanpur, Faizabad, Agra, Bahraich and Etawah. It has visited more than 180 schools, inter colleges and community places, covering around 1,05,483 visitors including students, teachers, community persons, officials, media, youth and others. Records of visitors, distance travelled and feedback obtained are being maintained and a daily report of visits shared with the funder and the partners.

Lucknow District: The exhibition has been open in Lucknow district whenever it returns from visits to nearby districts, as it is the central point for Prakriti bus. About 34,661 visitors drawn from 80 schools and 29 community

centres have viewed the exhibition in Lucknow district during the year.

Hardoi District: In May 2015, Prakriti bus visited Hardoi district and received a warm welcome with its inauguration by the Deputy Forest Officer of Hardoi at the Government Girls Inter College. The bus visited 14 schools and five village communities, benefitting about 6,946 visitors including students, teachers and community members. On the occasion of the International Biodiversity Day, an inter school painting competition was organised in which students shared their thoughts on biodiversity.

Sitapur District: As schools were closed in June 2015, the bus visited community centres and villages of Sitapur district. A formal inauguration was held at Siraucha Village, Sidhauri, Sitapur in May 2015. Various educational activities were conducted with the community members in Sitapur district. Over 1,885 visitors from eight villages benefitted by the bus.

Feedback Visits: In July 2015, the bus completed its first phase and the overall response was reviewed for its impact and feedback. Bus communicator teams visited 25-30 randomly identified schools from Lucknow district and conducted a quiz to find out how much information from the biodiversity exhibition has been imbibed and retained by students. It was found that, even after 6-8 months of the bus visit, students were able to answer questions on information gathered by them when viewing the exhibition.

Phase II: CEE team presented the learning and experiences with the bus to the governing committee of UPSBB and proposed Phase II activities with Prakriti Bus. The Committee appreciated the response from the pilot run of

the bus and agreed to support Phase II. During the year, it was proposed to cover 7-8 new districts where CNG was available. Some new educational resource material for classroom display was also proposed to be developed.

Kanpur District: Taking its journey forward, Prakriti bus reached Kanpur district in August 2015, with a formal inauguration organised at Chatrapati Sahuji Maharaj University, where the Vice Chancellor was the chief guest. Various officials from Forest and Education Departments and Head of various departments from Kanpur University were also present. With the help of Education Department officials, the bus was later taken to 19 schools of Kanpur district during the month, sensitising over 9,258 students.

Faizabad District: Faizabad district was covered next in November 2015, with a welcome being organised by the Faizabad Forest Division at the Conservator's office. The bus stayed in the district for over three weeks and visited more than 14 schools, clocking around 13,727 visitors.

Agra District: In December 2015, Prakriti bus was invited to the Uttar Pradesh Bird Festival which was held in a village in Agra. It was organised by the Uttar Pradesh Government as the first of its kind festival in the state devoted to the rich diversity of the birds of UP. Prakriti bus attracted the school students who visited the Bird Festival. Many activities, competitions and games like painting, quiz, essay, rope and ladder, bird identification game and odd-one-out game were conducted for them around the bus. Students were intrigued to know about the diversity found in their state and showed immense interest by asking various questions. After the Bird Festival, the bus visited schools in Agra city with the help of a local NGO and the

Education Department. The bus received a remarkable number of visitors in the district: Around 25,452 students from 15 schools.

Bahraich District: Prakriti bus reached Bahraich district in January 2016. Around 6,537 students and community members were educated about biodiversity and encouraged to conserve it. CEE's Bahraich office hosted the bus visit and networked with dolphin schools and dolphin villages for the exhibition. Over 19 schools were covered during this visit.

Etawah District: Prakriti Bus was taken to Saifai, Etawah on the occasion of the International Conference on Conservation of Sarus and Wetlands in February 2016. The biodiversity exhibition was set up for students, teachers, delegates and general visitors to make them aware of the Sarus and Wetlands of Uttar Pradesh and the rich biological diversity of the state. Various competitions were organised around Prakriti bus where students from many schools participated. The bus stayed in Etawah district for two weeks and covered 14,826 students of 18 schools and communities. It was back to Lucknow and continued its journey to community locations and schools.

Resource Material: CEE team developed a set of educational and promotional material at the start of the project, with the first set of promotional material comprising caps, cloth bags and mugs for participants and delegates. The second set of educational materials included a brochure on the bus, a campaign pamphlet in Hindi and English, flyers in Hindi to be distributed to varied target groups during district events, two biodiversity posters and a certificate-cum-oath poster for schools.

Apart from this, educational material developed by UPSBB and University of Lucknow was also distributed to schools which included posters, pamphlets, books and others. CEE is running various national level biodiversity campaigns, where the posters are distributed to schools being visited by the bus, to help them understand the theme of biodiversity and participate in the national campaigns. The educational material is receiving an overwhelming response, with teachers finding it useful in classroom transactions. Media finds the educational material useful to write about biodiversity.

13.5 Information Management Education and Communication for Maharashtra Gene Bank Project

This innovative project aims at participatory studies and conservation of various genetic resources of Maharashtra which are valued by the user communities. These resources encompass local crop varieties, animal breeds, biodiversity associated with grasslands and freshwater bodies, forests and marine sponges. Funded by Rajiv Gandhi Science and Technology Commission (RGSTC) of the Government of Maharashtra, this project brings together 20 local, regional and national level NGOs and scientific research institutions. CEE is implementing a cross cutting component of Information Management Education and Communication for the Maharashtra Gene Bank (MGB) Project.

The central achievements of this year included content development for four thematic Activity Handbooks and a need based, expanded package of 13 resource materials in the form of posters, booklets and pocket strips, keeping in

mind the activities, methodologies and the target groups. The project was forced to modify its overall plans due to unavailability of the funds, and due to technical problems at the overall project level. This has pushed back the possibility of achieving the project objectives within one year, since the trainings and resource material are foundational to implement the educational plan and achieving the project objectives.

CEE team undertook field visits to four project areas and conducted documentation, especially for the MGB Newsletter, and facilitated a workshop with 40 Headmasters organised by the partner organisation Ugam in Hingoli. In the area of facilitation of information sharing, management and capacity building, CEE undertook a series of efforts in the form of meetings, electronic dissemination of newsletter to a network of over 1000 contacts, facilitation of plant identification, bio-cultural diversity documentation and discussions, relevant thematic news sharing over email and WhatsApp groups, orientation on Google doc based documentation and through hands on workshop on multimedia tools and communication material development.

CEE has set up a model of Paryavaran Shikshan Mitras (PSMs) with partner organisations. For the reporting period, CEE engaged the PSMs and schools through various activities such as seed collection, nursery development, natural colour making and marketing, documentation of local biodiversity and related culture such as traditional seed and grain storage techniques, major festivals, photo documentation of plants including non-cultivated food plants. PSMs from four partner organizations IIRD, Lokpanchayat, Samvedana, Lokparyay and Ugam were provided with water testing kits

and orientation; they checked 78 water sources for physical, chemical and biological parameters using the kits. Responding to requests by the partner organizations, CEE facilitated them in getting a letter issued by the State Directorates of Primary and Secondary Education to all the regional Deputy Directors, informing about MGB and directing them to provide necessary cooperation in the implementation of IEC activities in selected schools. It also facilitated teacher meetings, documentation at thematic group meetings, and Shivarbhet (village level biodiversity assessment field visit) for school students. Another significant aspect has been the linking of three schools to an international programme called Go Global Garden, towards virtual exchange of information and knowledge about gardening, plants, food, culture and climate.

13.6 Assessment, Documentation and Development of Biodiversity Management Plan in Mining Areas - Goa

Mining is one of the major economic activities in the state of Goa, with several mines located in the Western Ghats region. The impact of open cast mines on biodiversity attributes, human health and livelihood are areas of concern. To protect biodiversity and enhance livelihood opportunities, Vedanta Ltd. commissioned CEE Goa State Office to undertake a project titled Assessment, Documentation and Development of Biodiversity Management Plan of four Mining Clusters in Goa. The project, which began in March 2015, includes preparation of land use and land cover maps for 10 sq. kms of area around the mining clusters, identification of various landscapes including grasslands, moderate to dense forests, wetlands, human habitation and rivers.

Sampling plots were laid to assess the biodiversity attributes of flora and fauna. Experts were appointed to carry out a biodiversity survey. The survey work has been completed and based on the biodiversity index, a management plan has been drafted for stakeholders consultation.

13.7 People's Biodiversity Registers (PBRs) in Andhra Pradesh and Telengana

CEE has been appointed as the Resource Agency to support Biodiversity Management Committees (BMCs) in the preparation of People's Biodiversity Registers (PBRs) by Andhra Pradesh State Biodiversity Board (APBB). CEE has been allotted two Gram Panchayats: Narasingapadu and Gundlapalli Gram Panchayat of Nekarikallu Mandal of Guntur District, Andhra Pradesh.

CEE Telangana State Office has been appointed as Resource Agency with the same purpose by the Telangana State Biodiversity Board (TSBB). CEE has been allotted five Gram Panchayats of Medak District for the project.

The objective is to facilitate BMCs in documenting the PBRs and submit a report to

the respective BMC and APBB/TSBB so as to provide legal authority to the PBR. The process of documentation involves meeting with BMC members, interaction with village elders, youth and women groups to collect primary data and also involve them in the conservation of the village bio-resources. Secondary data is being collated from the concerned departments and institutions. An important part of the process is to identify the local Vaidyas (natural healers) and document and preserve their traditional knowledge for future generations. In each village minimum one to two vaidyas have been identified and the traditional knowledge they possess documented; the report has been submitted to the respective boards.



Children taking pledge to act for biodiversity conservation_Bahraich March

Disaster Preparedness and Rehabilitation

14.1 'Rebuilding Faith' – Response to Uttarkashi Flash Floods, Cloudburst and Landslide - July 2013 - June 2016

In the aftermath of the devastating Himalayan Tragedy on June 16-17, 2013 in the state of Uttarakhand, CEE Himalaya, with the support of JSW Foundation, implemented a programme Rebuilding Faith in Uttarkashi, one the worst affected districts of the state. The programme addressed school and non-school going children, teachers, parents and the larger village and school community in the three blocks of Chinyalisaur, Dunda and Bhatwari of Uttarkashi district. The programme is being implemented in three phases:

Phase I ~ July 2013 - December 2013

Phase II - January 2014 - June 2014

Phase III - July 2014 - June 2016

Phase I focused entirely on restoration of education in 60 schools and provided psychosocial care and support to 8641 students (males - 4409, females - 4232) in the blocks of Bhatwari, Chinyalisaur and Dunda. About 934 teachers from the three blocks were trained in identifying children suffering from trauma and extending psychosocial care and support to them and their families. Besides this, 2000 school bag kits containing a school bag, English notebook, Hindi notebook, Math notebook, pencil set (10 pencils, one sharpener and one eraser), Disaster Risk Reduction (DRR) related Information, education and communication (IEC) material developed by CEE like the Riskland kit, Year Planner on DRR for the Community and Year Planner on DRR for the schools, and a disaster brochure were distributed to the students in Bhatwari, Chinyalisaur and Dunda.

Phase II was aimed at strengthening school education and improving the quality of teaching/learning. CEE and JSW Foundation initiated a programme named Umang for school children as well as non-school going children, to attract them to school, help them to return to normal activities and routines, and provide an opportunity to transform a frightening event into a learning experience. Around 9000 children and 500 teachers were addressed through Umang. IEC material like local festival calendar, booklet on psychosocial care and support and year planner were also distributed to generate awareness on environmental education and disaster risk reduction among the masses. More than 100 teachers were trained in joyful teaching-learning methods and psychosocial care and support interventions.

Phase III is dedicated to long term preparedness and community based disaster risk reduction. Various programmes were run for school children, teachers, community members, Gram Pradhans and Panchayati Raj Institutions (PRIs) under the thrust areas of disaster risk reduction, climate change and sustainable mountain development. About 50 schools with a collective strength of 5000 students and 15 villages with a total population 1500 people are being addressed in the current phase.

14.1.1 DRR Preparedness Programme in Schools

Educational and awareness programmes are being conducted in 50 schools (upper primary and high schools and inter colleges) in the three blocks - Dunda, Chinyalisaur and Bhatwari of Uttarkashi district, focusing on disaster risk reduction, climate change and sustainable mountain development. The programme adopts an interactive and

participatory approach to promote a culture of disaster preparedness and also to increase the capacity of schools and students to respond to natural disasters. During the programme, school children are taught disaster preparedness through hands-on activities to prepare them to take responsibility for their own safety in the event of an emergency. A variety of activities are conducted for this like mini-lectures, brainstorming sessions, situational analysis, games (hazard hunt, disaster association, back to the class, hazard race, Chinese whisper, Risk land), ice breaking activities (blind faith, concentration, who am I), creative activities (poster making, slogan writing, extempore speech), mock drills and demonstrations. Mini lectures, brainstorming sessions and situational analyses are used to provide information on various disasters like earthquakes, fires, floods, landslide and others and get children thinking about disasters before they become involved in other lessons or activities. Games are conducted in groups to enhance their vocabulary on disasters and disaster risk reduction and initiate learning through play. Evacuation drills and actions that should be taken before, during and after a disaster like Drop Cover Hold and Stop Drop Roll are also demonstrated. Creative activities provide an opportunity for verbally less expressive children to express themselves through drawings, painting and slogan writing. In such activities, students are given a topic related to mitigation, risk reduction, climate change or sustainable mountain development and they then present their views to the larger group. Some ice breaking and fun activities are conducted in between other activities to make the children feel relaxed and comfortable. Such an amalgam of activities ensures that every student actively participates in the programme.

Along with DRR, climate change and sustainable mountain development, the programme also focuses on hygiene and sanitation, waste management and Clean Nirmal Ganga. Students are oriented on correct hand washing practices, personal and menstrual hygiene, segregation and disposal of waste, water treatment and storage, litter free drainage and gadheras (small streams). Schools are also provided with IEC material developed by CEE like year planner on hygiene and sanitation, Riskland kit, disaster awareness brochure, Paryavaran Mitra posters and CO2 Pick Right booklet.



FMR giving CPR



students learning about DRR through riskland game

14.1.2 Teacher Training Workshops

CEE Himalaya organised one day teacher training workshops consecutively on October 7, 8 and 9, 2015 in Bhatwari, Dunda and Chinyalisaur blocks respectively, with the objective of building the capacity of school teachers as effective disaster risk reduction trainers. More than 104 teachers from Inter Colleges, High Schools and Upper Primary Schools attended the workshops.

A school safety audit was also conducted during the workshops to assess the level of understanding and knowledge of school safety in teachers and administrative staff in schools, to assess the types of structural and non-structural mitigation measures taken by schools after a disaster, and to prepare schools against future emergencies in disaster prone areas. Teachers were engaged in different activities in order to help them correlate disaster management practices with disaster risk reduction, and method to modify school curriculum subjects with the addition of DRR techniques without changing the syllabus. Different techniques for active involvement of parents and community members were also addressed. The skills and knowledge required to prepare a School Disaster Management Plan was also addressed in the workshops. The Block Education Officer and the Deputy Block Education Officer of Dunda were the chief guests.

The resource persons included: Dr. Abdhesh Gangwar, Programme Director, CEE Himalaya; Mr. Jagmohan Arora, Red Cross Society; officials from Police Department, and Fire and Emergency Services; CEE Team; and interns from Tata Institute of Social Sciences, Mumbai.

14.1.3 Workshop for Gram Pradhans

On September 29, 2015, a one day workshop was organised for the Gram Pradhans of 15 villages of Uttarkashi district on Disaster Risk Reduction and the role of Panchayati Raj Institutions (PRIs) in people's participation. The workshop was conducted by CEE Himalaya Team and interns from Tata Institute of Social Sciences (TISS) in Uttarkashi district of Uttarakhand. The workshop oriented Gram Pradhans on topics like a historical perspective of PRIs; role of Gram Pradhans and how they can contribute to disaster risk reduction; structure of disaster management at state, block and village level; and the role of Gram Pradhans in making their village disaster resilient. This workshop was also an effort to tap the traditional wisdom of the local communities and to integrate them with modern practices in disaster mitigation efforts. It included knowledge sessions by CEE Team and TISS interns, discussions and interactive sessions. The sessions addressed specific topics like introduction to disasters; community resilience and preparedness; importance of SAR (Search and Rescue) and first aid. A focused group discussion was conducted on the role of Gram Pradhans in disaster management and ways of making their village disaster resilient. A scenario planning activity gave different disaster situations to the Pradhans while the CEE team observed their responses and helped them think out of the box. Besides this, the workshop also provided a base for integration of various concerns of the community with that of the NGOs and CBOs which are engaged in various developmental activities at the grassroots level. According to the Gram Pradhans, case studies of model villages across India must be included and lessons

learnt highlighted so as to provide guidelines to the Gram Pradhans. Along with awareness generation, the focus should also be on livelihood generation for youth. Another major concern that was brought up by the Gram Pradhans is the conservation of medicinal plants and development of an alternative source of livelihood from them.

14.1.4 Preparation of Village Contingency Plan

Under its objective of community based disaster risk reduction, CEE Himalaya facilitated village communities in the preparation of village contingency plans. A Village Contingency Plan entails a list of activities a village agrees to follow to prevent loss of life, livelihoods and property in case of a disaster. It also identifies in advance, action to be taken by individuals in the community so that each one knows what to do when a disaster strikes or when a warning is received. The main objective is to empower the community to deal with disasters on their own as a way of life and to engage local stakeholders in their own disaster risk and vulnerability analysis.

Five villages - Kuroli, Mastari, Kankarari, Bongadi and Sada - situated in the Bhatwari block, one of the most vulnerable blocks in the state, have prepared their contingency plans with CEE Himalaya facilitating the process. These contingency plans are expected to be at hand during any future disaster avoiding loss of life and property.

14.1.5 School Disaster Management Plans (SDMP)

In addition to the disaster preparedness programmes in 50 schools of Uttarkashi district, CEE Himalaya also facilitated these

schools in the preparation of school disaster management plans. In the process of SDMP preparation, students and teachers gained an understanding of hazards present in schools, and ways to manage and mitigate them through effective planning and response.

All the 50 schools have prepared their school disaster management plans as well as formulated school disaster management communities responsible for disseminating, implementing and updating the SDMP. Regular mock drills and trainings will also be conducted to supplement the SDMPs and ensure disaster preparedness in schools.

14.1.6 Mock Drill Conducted by CEE Himalaya and Red Cross Society

CEE Himalaya partnered with Red Cross Society to conduct a district level mock drill on September 8, 2015, in Uttarkashi town. Red Cross has actively mobilised and trained youth from the local community as First Medical Respondents (FMRs) who would provide immediate assistance to victims until proper medical treatment is available. The event further trained the First Medical Respondents and created awareness amongst the local people about emergency situations in post disaster scenarios. The local police, fire department and ambulance personnel worked in tandem with the Red Cross team to create a real life situation which the locals could relate to.

The event was initiated with the District Secretary of Red Cross briefing the FMRs about various first aid and life saving techniques. There were also practical demonstrations of cardio pulmonary resuscitation (CPR), human stretcher formation with the bare minimum resources, support rendering techniques in

case of fractures, and Friendship Ladder formation for rescue of injured victims.

Subsequently, the mock drill was carried out in three prime locations, Bhairav Chowk, the District Hospital and Mall Road. The FMRs demonstrated the entire process, right from the rescue of an injured victim using a dummy up to a quick transfer of the victim to the District Hospital.

This mock drill succeeded in awakening the curiosity of the locals on rescue operations and also helped them realize the importance of paying heed to signals like the emergency sirens, as even a fraction of a second could save lives while negligence can lead to grave situations.

14.1.7 Spirulina Distribution and Rapid Need Assessment Post Nepal Earthquake

Dr. Abdhesh Gangwar, Programme Director CEE Himalaya and CEE North-East and Mr. T. K. Balappan, Chief Administrative Officer (Secretariat & Legal), CEE Ahmedabad, visited Nepal during September 15-18, 2015. The purpose of the visit was to distribute Spirulina, an energy and vitamin rich food supplement and conduct a rapid needs assessment of

Spirulina was supplied by to CEE by Spirulina Foundation of Tumkur, Karnataka, for free distribution to disaster affected people in Nepal. Both the activities were carried out in Lalitpur district of Nepal.

About 125 bottles containing 120 capsules each were distributed in three schools in Lalitpur, identified with the help of the Department of Education as being amongst the worst hit and least addressed by other organisations and local government. The schools were:

1. Gyanchakshu Primary School, Ward 8, Gotikhel
2. Bal Vikas Primary School, Ward 6, Gotikhel
3. Shree Buddha Bhagwan Secondary school, Ward 8, Manikhel

Mr. Parshuram Sharma Niraula, Chief Executive Officer, CEE Nepal; three officials from the Department of Education, Government of Nepal; Mr. Yognidhi Timal Sinha, Resource Person; Mr. Khemnath Pokhrel, Assistant District Education Officer; and Mr. Govind Prasad Niraula, School Supervisor, all of them belonging to Lalitpur district jurisdiction, were present at the Spirulina distribution.

15 Facilitating NGOs and Community Initiatives

Facilitating NGOs/CBOs and Sustainable Integrated Development Programmes

15.1 GEF-UNDP SGP Operational Phase 05 (OP05) Programme

Background: The Centre for Environment Education (CEE) is acting as the Implementing Partner for the Global Environment Facility (GEF) - United Nations Development Programme (UNDP) supported Small Grants Programme (SGP) since the year 2000. The SGP seeks to support initiatives that demonstrate community-based innovative, gender sensitive, participatory approaches and lessons learned from other development projects that lead to reduce threats to the local and global environment. Currently, the GEF-UNDP SGP is running in 126 countries across the world.

The SGP globally assists the developing countries in fulfilling their national commitments emanating from the international treaties and conventions related to the global environment, through local actions. The SGP believes that the global environmental problems can be addressed effectively if local people are involved in decision making at all levels within projects and have control over resources. The SGP demonstrates that with a small amount of funding, the communities at the grassroots level can make a significant difference in their livelihoods and the environment. The SGP influences and supports the global climate interventions through thematic areas like arresting land degradation, Biodiversity Conservation, Climate Change and Persistent Organic Pollutants (Chemical Management).

In an effort to facilitate Non-Governmental Organisations (NGOs)/Community Based Organisations (CBOs), CEE has been initiating

a variety of interventions at the community level by adopting sustainable integrated development approaches through capacity building, trainings and guidance workshops, to acquaint the community of the global environmental benefits through local initiatives and adopting those actions to produce measurable impacts on the ground.

15.1.1 Status of GEF-UNDP SGP Operational Phase 05 (OP05) Programme

The GEF-UNDP SGP OP05 programme of five year duration with a funding budget of US \$ 5.0 million entered its fourth year of operation. Against the planned grant allocation of US \$ 3.691 million, US \$ 2.748 million (75% of the funds) has been committed, leaving a balance of US \$ 0.943 million. These funds are also expected to be committed by June 2016 when the proposals that are in the pipeline will be presented to the National Steering Committee meeting for approval, which will lead to 100% of the grants being committed.

Against the target of US \$ 1.300 million allocated by UNDP for the Financial Year 2015, CEE achieved a delivery of US \$ 1.236 million, i.e. 95% of the annual target.

In all, 86 projects, with a synergistic and integrated approach for Biodiversity Conservation, Climate Change - mitigation and adaptation, and Land Degradation with livelihoods as the cross-cutting area were approved and operationalised on the ground. Out of these, 23 projects have been completed as of March 2016 and another 37 will be completed by the end of 2016. In these 86 projects, a co-financing of US \$ 5.9 million will be accessed from the community, NGO partners, governments, banks, private sector and donor agencies.

More than 691 women Self Help Groups have been formed in these projects, with 9,928 women members who are regularly meeting every month and saving nearly Rs. 50 to Rs. 100 per month (total savings of Rs. 74.70 lakh ~ US \$ 120,000); these SHGs have been linked to banks and have raised a grant/credit of Rs. 8.6 crore (US \$ 1.3 million) for taking up economic enterprises and technology interface in a more sustainable manner. In every project, nearly 2-3 meetings per month are being held in every village (in more than 760 villages), adding up to a nearly 30,500 meetings having taken place till now. In most of the villages, meetings and the decisions taken have been documented.

Low cost technologies that have been implemented with the help of project partners include: 8,500 biomass briquetting cakes made and sold, 9,800 energy efficient cook-stoves set up, five small micro hydels of 5 kW each and 21 water mills installed, 18 check dams and village ponds set up. 19,000 ha of land degradation checked and more than 410 biogas plants commissioned. Nearly 79,450 MTs of CO₂ emissions have been checked through 33 climate change projects.

Nearly 51,755 hectares of biodiversity have been enhanced around protected areas, community conserved areas and sacred groves while new salt tolerant crop varieties and local varieties have been conserved through a range of community-led measures. Nearly 74 new products have been made using local biodiversity and systems by nearly 21 NGO partners and all of which have been linked to markets.

Seventeen projects were replicated or scaled up with the twin objectives of broadening the areas, and uptake of technologies from the project and partner institutions. These projects

have shown greater promise in terms of access to government schemes, GEF benefits, co-financing and sustainable institution creation, brand building and business models. The focus of GEF-SGP is to create a niche through scaling up and to make communities responsible and take greater ownership, by adopting skills and practices. Many of the projects have already developed sustainable institutions such as Producer Company and Cooperatives for long term sustainable development.

Twenty six NGO partners have been bestowed with various national and international awards during the OP5 programme, ranging from the UN Equator Award, SEED Award, India NGO Award and Kelkar Award to the Best Entrepreneur Award and India Biodiversity Award.

The OP05 programme was evaluated by UNDP's external evaluation team (comprising one international and three national consultants) who have made overall commendable recommendations. The OP05 programme has also been audited by UNDP's External Auditors for the past two years with no financial and significant functional irregularities reported.

This programme is viewed as a flagship programme of GEF/UNDP amongst the civil society fraternity.

A draft Project Identification Form (PIF) has been prepared for OP06 programme and shared with the Ministry of Environment, Forest & Climate Change and UNDP for which a budget of US \$ 6.0 million has been allocated.

15.2 COMDEKS Programme

The COMDEKS (Community Development and Knowledge Management for the Satoyama

Initiative), a Japanese funded programme to support landscapes management in Uttarakhand, entered its third year of operation, with a funding of US \$ 255,000. The programme is designed to support local community activities to maintain and rebuild socio-ecological production landscapes and to collect and disseminate knowledge and experiences from successful on-the-ground actions for replication and up-scaling in other parts of the world.

The COMDEKS programme is executed by United Nations Office for Project Services (UNOPS) with CEE as the National Host Institution (NHI). It follows the SGP Operational Guidelines and operates like GEF-UNDP SGP programme, including seeking guidance from the GEF/SGP National Steering Committee chaired by the MoEF&CC, GoI.

Seven NGO-managed projects were approved in Uttarakhand to support three types of landscapes, spanning from lower, middle to higher mountainous terrains, aiming directly at the expected outcomes listed in the Landscape Strategy that was specially developed before the programme was taken up. All these projects, except one that became operational in December 2015, are close to completion. A consultant has been hired to complete the impact assessment study-cum-evaluation in comparison with the baselines that were developed at the beginning of these projects. All the projects meet with the standards established by COMDEKS and the final report will be presented to the Japanese Government and COMDEKS shortly.

15.3 Medicinal Plant Gardens Programme

This programme aims to develop medicinal plant gardens in 300 schools and colleges of

New Delhi and the National Capital Territory (NCT), and sensitise teachers and staff members on the use of medicinal plants and methods to grow them. It is a joint initiative of the National Medicinal Plant Board, Ministry of Health & Family Welfare, Government of India and the Centre for Environment Education (CEE). The project aims to develop Herbal Medicinal Plant Gardens in schools and colleges to address the conservation of medicinal plants and ensure their use in our day to day life for better health and immunity.

The programme is implemented on the ground by CEE Delhi and promotes inter-generational knowledge between schools for effective processing of and obtaining benefits from medicinal plants. At present, a wide range of medicinal plants are threatened or near extinction due to several factors like deforestation, over-exploitation, improper collection due to lack of knowledge about proper techniques and poor investments in adopting their use. Application and conservation of medicinal plants in our day to day life will promote their values among the society. Based on their importance and need for conservation, CEE has listed 26 species of herbs and shrubs which are being planted in the Medicinal Plants Gardens.

Till now 218 schools have partnered with CEE and 165 gardens have been established. Out of these, five schools have been identified for development of mother nurseries to supply the saplings to the schools within the vicinity of their respective region. Eighteen orientation workshops have been organised and 2,530 participants (1,085 teachers, 1,280 students and 165 gardeners) have been oriented, to promote the project in their schools and inculcate the medicinal plants cultivation practices among the students. To effectively

implement the programme in all the schools, CEE Delhi has developed a partnership with the Department of Environment, Government of NCT to link the activities with the eco-clubs of schools. The project has two NGO partners ~ Eco Roots Foundation and I-Dream ~ with whose help the project coverage is being extended through networking and capacity building.

A good amount of advocacy material has been developed as part of this project, like brochures (in English and Hindi), posters, leaflets on Usefulness of Medicinal Plants, and stickers to disseminate the project philosophy, objectives, strategy and activities.

15.4 Partnership with Aditya Birla Group, Bhiwani

This is the first project with Aditya Birla Group, Bhiwani (Haryana) to link up with their Corporate Social Responsibility activities on Clean Energy for community-led Inclusive Growth and Sustainable Development in Bhiwanif to introduce energy efficient technologies like biogas as an alternative to depleting fossil fuels such as wood, LPG and kerosene; to reduce CO₂ emissions, and reduce the drudgery of women. The project also aims to promote best practices in agriculture, including organic farming, through usage of organic fertilizers and providing improved living conditions and livelihoods.

The project began with a rapport building with the youth by taking up extracurricular activities in the school like celebrating Earth Day. A sewing centre has been established and a sewing course provided free in the village of Rajpura Kharkhari, for the skill building of deprived girls so that they can take it up as a livelihood. The girls and

women earn Rs.700-1000 per month. The women are also trained to make bags out of the discarded cloth pieces from Grasim of Aditya Birla group, which are sold in the local market for improved earnings. As a part of the main activity of the project, different models of biogas units have been tried in the project area. Two ferro-cement models of biogas units have been set up in Govindpura and Rajpura Kharkhari villages. In all, five additional units (portable models) have been installed, out of the total 10 biogas units envisaged. The remaining three units will be installed within a month. An exposure visit was organised for the farmers from all the five targeted villages and an expert, Mr. Satish Patel, oriented the villagers to improved ways of farming, including mixed cropping, plant protection and the use of biogas slurry as well as a spray for improved cultivation. The project is operational till June 30, 2016, by which date the objectives set are expected to be achieved.

15.5 Small Grants Programme (SGP) in CEE Central

As the SGP is implemented by CEE through its six regional offices and a Central Secretariat based in Delhi, CEE Central Regional Cell undertook the following activities related to the project.

Proposal development and approval for Grant:

In all, 19 proposals were received - 12 from Maharashtra, four from Madhya Pradesh (MP), two from Chhattisgarh and one from Goa. Out of these, seven (one each from MP and Chhattisgarh and five from Maharashtra) have been shortlisted for grant through the Regional Committee Meeting and National Steering Committee Meeting. Eight revised proposals were also chosen for the grant (seven from MP and one from Maharashtra).

Monitoring: Seven monitoring visits were made to five NGOs, including mid-term review visits.

Events: A capacity building workshop was conducted in Bhopal in July 2015 which was attended by more than 50 participants from 30 NGOs. Sessions were conducted on one-person company, setting up and managing a producer organisation, System of Rice Intensification (SRI) technique, biogas and other technologies adopted by different partner NGOs.

Two workshops to train partner NGOs were held at Phaltan by Appropriate Rural Technology Institute (ARTI), Pune. These were part of the ARTI project that involved dissemination of alternate energy technologies like biogas and charring of agricultural residue, and energy efficiency technologies like improved cook stove (smokeless chulah) and Sarai cooker.

More than 25 NGOs were benefitted by these workshops which were held in December 2015.

Awards won by NGO partners

Sarthak, Bhopal: Yashwant Rao Kelkar Youth Award 2015 for operationalising the

programme related to the management of plastic solid waste through rag-pickers in different cities of Madhya Pradesh and for launching the programme in all the towns of Madhya Pradesh under the Madhya Pradesh Chief Minister's Clean India Mission (Swachh Bharat Mission)

The Madhya Pradesh Plastic Waste Model established through the joint efforts of Swachh Bharat Mission (Urban), Madhya Pradesh Government and the NGO Sarthak was given the excellence award for its plastic waste management at a function held at the Rashtriya Vigyan Mela in Bhopal. The award was given for the best decoration, demonstration and best counseling.

It also received the Earth Day Network's Shahar Green Karo Award for the project "Sustainable Management of Plastic Waste and Increased Livelihoods for Sarthak Karmis (SKs) in partnership with Bhopal Municipal Corporation".

Sujagriti Samaj Seva Sanstha: Basaman Mama Award 2015 by MP State government for the good work done in the areas of forest conservation and afforestation.

Training, Capacity Building and Networking

16.1 Training and Capacity Building

16.1.1 Biodiversity and Sustainable Development Training

Reliance foundation (RF) has been working in Jasdan Block since two years in the area of organic vegetable farming in backyards focusing also on water conservation. RF has been interacting with CEE Jasdan Field Office with a view to sharing experiences and learning from CEE's long field experience. Some of CEE's project villages are also a part of their project area. CEE sees this as an opportunity to work in synergy with RF and spread our learning.

During the reporting year, RF approached CEE Jasdan Office with a request to conduct trainings for their staff as well as target communities, to help them understand the importance of vegetable farming and its methods. CEE conducted 12 one day trainings for the local community in their identified villages. These trainings were conducted in three clusters, namely, Modasa, Radhanpur and Jasdan. More than 600 persons participated in these trainings consisting of RF's targeted community members for implementing Reliance Health and Nutrition Garden concept.

The trainings mainly focused on various aspects related to health, nutrition as well as sustainable farming techniques. Participants were provided detailed information about how nutritional deficiencies can affect health, especially of women and children, what nutrients are available from different vegetables, and what is a healthy diet. Through interactive discussions and demonstrations, various steps and precautionary measures for

getting a good harvest of vegetables throughout the year in an organic manner were dealt with. Various sustainable practices related to bio fertilizer making, bio-pesticide and biological seed treatment were also taught to the group. These trainings were much appreciated by RF.

As a further step, Rural Programmes Group of CEE conducted a training on Biodiversity and Sustainable Development^f during October 19-22, 2015, at CEE Ahmedabad, for a group of 20 Reliance team members from various clusters in northern and western India. This three day interactive training mainly focused on issues such as ecology, sustainable agriculture, biodiversity, Biodiversity Act and preparation of PBR, environmental governance and community mobilisation. Various external biodiversity experts were also invited as resource persons for the training.

The group was taken to Jasdan Field Office area for a field visit, where they visited a Sanjeevani school for its medicinal garden (Sanjeevani was a project implemented by CEE Jasdan for creating medicinal biodiversity conservation areas ~ BCRA's or commonly known as medicinal garden on school campuses ~ more details in Chapter 9) and an organic farm, and also interacted with a women self help group (SHG) and Biodiversity Management Committee (BMC) at Lalavadar Village, to understand how biodiversity conservation and economic returns can go hand in hand.

The entire training project was well appreciated and being considered as a beginning of a long term partnership.

16.1.2 Capacity Building Programme on Environment Science for Ensuring Learning Outcome at Primary level

CEE was invited by the Regional Institute of Education (RIE), Ajmer, to facilitate a training programme on Environment Science for ensuring learning outcome at Primary level. The five day training programme was organised for capacity building of Key Resource Persons of Punjab and Himachal Pradesh on Environmental Science from September 7-11, 2015, at RIE Ajmer. Mr. Pramod Kumar Sharma, Programme Coordinator, and Ms. Priyanka Sinsinwar, Programme Officer, CEE, facilitated the workshop as resource persons. The capacity building programme included sessions on creating an understanding of education for sustainable development, pedagogical approaches for effective transactions of curricular topics, national level programmes for environment education in schools and assessment and evaluation of learning outcomes. The training programme was attended by 45 participants.

16.1.3 CEE Ka Bioscope

CEE ka Bioscope (CKB) is an ICT enabled programme designed to provide interactive and fun-filled learning for school children. The activities of the programme help students in integrating learning in Environmental Studies, Science, as well as Social Sciences. In its seventh year now, CKB Programme has reached out to 350 students from Grades 5 to 11 of three schools in Ahmedabad.

Four different modules, i.e. Population and Development, Biodiversity Conservation, Sustainable Agriculture and Global Warming were dealt with during this phase.

Various teaching-learning methods and tools were used, including power point presentations, lab-based sessions using internet connected machines, global positioning system (GPS), Google Earth, MS Office, group discussions, nature camp and field visits among others. Students also had an opportunity to interact with experts and government officials of the Agricultural Produce Market Committee (APMC), the Waste Water Treatment Plant, and Census Department, Gandhinagar. A visit to Sundarvan, CEE's Nature Discovery Centre, was also organised. One-day and one-night educational tours to CEE's Field Office at Jasdan and Rural Knowledge Centre, Halvad for senior grades of 8 and 9 were initiated this year. The educational tours were organised as part of the Sustainable Agriculture and Population and Development modules respectively. The educational tours were followed by a one hour internet-enabled computer session.

Camps of three days and two nights at CEE's camp site at Beyt Dwaraka, and of two days and one night on the coast of Bakore in the Panchmahals District, Gujarat, were also organised. The camps too were followed by a one hour internet-enabled computer session.

A CKB Programme Manual has been conceptualised and developed during this year. The Manual consists of a set of two books: one elaborating on the Programme, and giving the standard operating procedures; the other consisting of annexes in the form of ready-to-use resources like forms, formats, presentations, link diagrams and others.

Conceptualisation of ICT enabled modules has been initiated with the help of a GIS expert to enhance the integration of technology into the existing modules of CKB.

16.1.4 Exposure Tour for In-service Professionals from Akanksha Foundation, Mumbai

A one day exposure tour to CEE for in-service professionals from Akanksha Foundation, Mumbai, was organised on November 20, 2015 CEE campus Ahmedabad. The tour was designed to help participants understand the Centre's contribution in the field of Education for Sustainable Development with a special focus on School Education. CEE's experiences of executing innovative programmes at international, national, state and local levels were shared. Programmes which catered to urban and rural set-ups were also shared.

16.1.5 Workshop on Documentation and Report Writing for Teachers

A three day module, focused on Documentation and Report Writing, specifically designed for teachers and formal education practitioners was offered for a group of about 25 teachers. Designed specifically for practising teachers, the Module, scheduled across four months duration, provided the participant teachers adequate time to undertake hands-on training sessions, apply the learnings in their real work at their school and come back and discuss their experience.

The workshop focused on three forms of documentation – written, photography and videography. As part of the workshop, the teachers undertook school based assignments and developed written reports (of a variety of forms), clicked photographs for a pre-identified learning purpose, and produced very short teaching-learning videos.

16.1.6 Enhancing Students' Participation in School Proceedings: The Students' Cabinet Project

A democratic society is only as strong as its citizens' ability to participate in the decision making process and make informed decisions. Education thus is the most effective tool to empower a democratic society. Guiding and supporting children, during their school years, to effectively lead school governance and decision making processes can thus go a long way in making students aware, active and competent citizens of tomorrow of the world's largest democracy.

With charity support from the Tata Consultancy Services, Gandhinagar, CEE has planned a year-long education intervention in five rural primary schools in and around Gandhinagar, Gujarat. The proposed initiative, establishing Students' Cabinet in schools, is about establishing democratic systems for children's participation in school development processes.

16.1.7 Total Quality Improvement for Teachers in Social Science

Gujarat government has been implementing the Gunotsav programme since the last five years, which leads to change in the quality of primary school education. An important area of intervention for implementing quality education being in-service teacher training, CEE and Gujarat Council of Educational Research and Training Centre (GCERT) collaborated in conducting such a training that included the concepts of the subject, various methodologies for classroom teaching, lesson plan preparation and activity based learning.

The aim of the training was to bring about quality education through improving the capacity of teachers in the subject, methodology and teaching skills.

The objectives were (a) to train selected teachers of standards 6 to 8 from all over the state on teaching methodology, content and teaching skills for Social Science and (b) to evaluate training effectiveness.

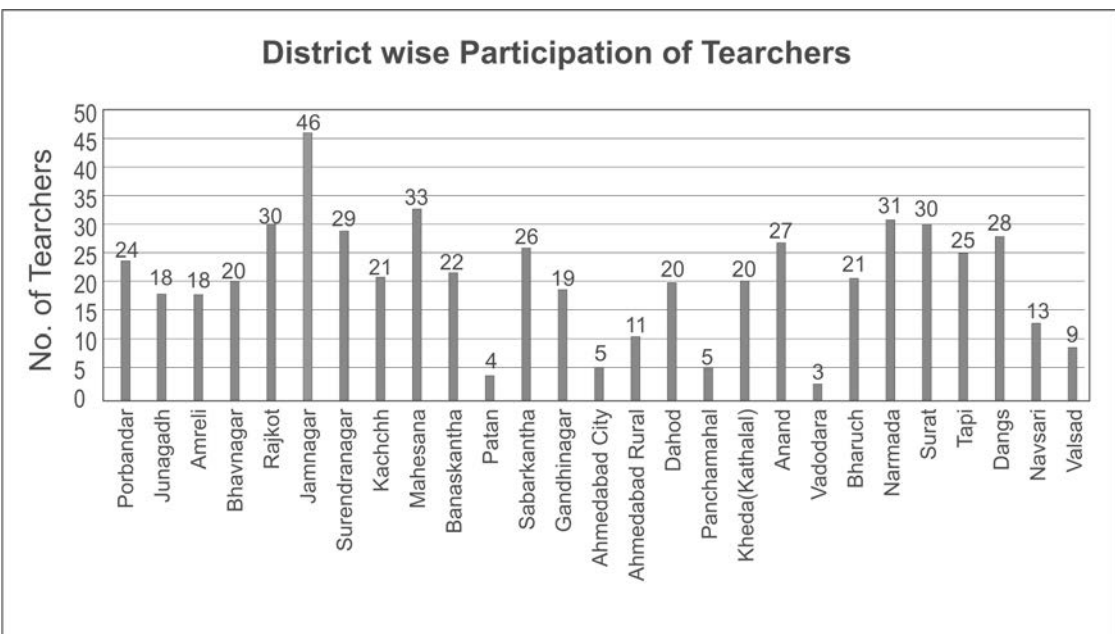
Key points of training

The training programme provided teachers with latest updates/information on their subjects so that it would reach their students and create an interest in them for social science subjects. Subject content, methodology, pedagogy and creative educational environment were the topics covered under the training. Methodologies used include discussion, lecture, model making, sky gazing, role play, nature trail and environment games.

About 562 teachers from across the state participated in this three day residential programme held in 12 different locations. The training kit included books, compass box and a pen drive with subject related resources like animation movie and an activity manual. The district wise number of participating teachers is given below.

16.1.8 Equipping Educators on Climate Change in Jammu

CEE Himalaya organised one day workshops in Jammu for educators under the mandate of Supporting Science Express Climate Action Special in the Indian Himalayan Region, with support from Swiss Agency for Development and Cooperation (SDC) under its Indian Himalayan Climate Action Programme (IHCAP). Hosted by the Department of Environmental Sciences of the University of Jammu, and organised and conducted in collaboration with the Centre for Environment



Education and Training, Jammu and Kashmir, the workshop was held on December 14, 2015.

More than 100 teachers attended the workshop on equipping educators on climate change with Smt. Priya Sethi, the state Minister for Education, Culture and Information, as the chief guest and the Vice Chancellor of Jammu University Prof. R D Sharma presiding over the workshop. Resource persons included Dr. Abdhesh Gangwar, Programme Director of CEE Himalaya; Mr. O P Sharma, IFS, Director of the Department of Ecology, Environment and Remote Sensing; Mr. Rajeshwar Jasrotia, IFS, Chief Conservator of Forests; Mr. Sushil Kumar, Manager, NABARD Climate Change Green Fund; Prof. J Jagannathan, Department of Disaster Management and Climate Change, Central University; Dr. Sanjay Sharma, Department of Environmental Sciences, University of Jammu; and Mr. Rahul Goswami, UNESCO expert on intangible cultural heritage.

The Minister assured the participants that the state government would take all steps necessary to strengthen the subject of environmental education at all levels in schools and colleges and would support its inclusion in the new education policy and in the state action plan for climate change adaptation and mitigation. She said that as society and students look up to educators for direction, the teaching fraternity should contribute towards environmental issues. She added that the J&K State Council on Climate Change has been set up with the Chief Minister as its head. She expressed hope that students would show a zeal towards understanding environmental issues and practising environmentally sound precepts.

16.1.9 ESD for Vocational Education (VE) – Global Journey

Even in the era of SDGs, reaching ~ and teaching ~ sustainability is still a major challenge. CEE works at various levels with the formal education system to infuse ESD and create international partnerships to enhance and enrich this learning. Global Journey - India 2015 is an innovative project infusing ESD in the Vocational Education (VE) stream. The project is a partnership between CEE and of Global School, Swedish Council for Higher Education.

The Global School is a Swedish Government programme managed by the Swedish Council for Higher Education, which aims to support Swedish schools in their endeavour to apply the UNESCO strategies of Global Education (GE), Education for Sustainable Development (ESD) and its successor the Global Action Programme (GAP), as a reinforcement of the existing national curricula.

Global Journey - India 2015 sought to build capacity of Vocational Education (VE) Institutes across Sweden towards integrating ESD aspects. ESD for VE helps develop skilled workers who have knowledge of ~ and commitment to ~ sustainable development, as well as the requisite technical knowledge. ESD for VE has the potential to prepare people for green jobs that contribute to preserving or restoring the quality of the environment, while improving human well-being and social equity.

A key goal of Global Journey - India 2015 is to function as a tool for school development with a greater integration of Education for Sustainable Development (ESD) and as a

starting point for vocational schools in both countries to establish networks and a long term partnership in the area of vocational studies and global sustainability.

As part of the programme, 22 participants including teachers, principals and municipal council members, from five vocational schools from five different municipalities in Sweden participated in the training exposure experience organised by the Rural Programmes Group at CEE Ahmedabad, in November-December 2015.

The exposure-training programme provided participants a brief but overall orientation to Indian culture, rural society, socio-economic circumstances and sustainability concerns of developing nations like India. The participants also were given an exposure to different forms of skill building efforts as part of formal and non-formal education programmes, such as skill training for visually challenged students at Blind Persons Association (BPA), women empowerment efforts through NGOs, Industrial Training Institutes (ITIs), or integrated skill based education approach at Gandhian institutes. Visits to and interaction with these institutes, and components such as rural home-stay, provided participants an excellent opportunity to understand sustainability from an very different socio-cultural perspective.

Some of the major outcomes of the programme are:

- Long term partnerships and networks for further learning established
- Enhanced understanding of development issues and enhanced inter-cultural competencies developed among the participants

- Enhanced understanding of different methodologies and approaches to vocational education in various circumstances

- The participants, along with their municipal council members, were able to discuss their own plan for integration of the ESD component in their respective vocational schools.

16.1.10 Student Mobility Programme 2016

Student Mobility Programme (SMP) 2016, was organised by Rural Programmes Group and CEE Australia, for a group of 10 students from Australia's Central Queensland University's Education programme for Pre-service teachers. The group was accompanied by their lecturer in education, Ms. Karena Menzie. This programme was organised as part of their academic component of Service Learning Programme.

As part of SMP 2016, during their 14 day India trip in January 2016, the participants were provided a mix of experiences to introduce them to social-cultural and environmental diversity, to help them understand educational challenges, innovative educational approaches and pedagogy for inclusive and holistic education, that is at the core of ESD.

The programme included field trips, school visits, discussions with experts, participation in cultural events and Indian festivals, group work and others. To aid the group to experience and learn from different educational systems and approaches, school visits and interactions were organised with different types of schools such as urban, rural government, and post basic schools. The group was taken to Amba School of Excellence at

Adalaj to get a perspective on value based education system. These visits were complemented with intense interactive sessions with CEE, school teachers, classroom observations, and self-reflective group work sessions. They also shared innovative approaches and methodologies from education systems in Australia with the schools they visited. Throughout the programme, the group also worked constantly towards developing their own take-home and ideas to apply their learning.

An interaction with Dr. Shailendra Gupta, Registrar, Calorx Teachers University (CTU) and a visit to their campus helped them get a quick overview of the teachers training system in India and pedagogical approaches. To complement and complete the entire educational visit, the group was also provided exposure to some challenging situations where education is imparted using innovative approaches. Two such experiences were a visit to Blind People's Association and to a primary education classroom on a construction site for the children of construction workers, being run by SAATH, an Ahmedabad based charitable organisation. Interaction with the team members from SAATH helped the group understand the huge educational challenge of providing quality primary education to children of urban migrants.

The varied facets of Indian life and lifestyles were further introduced to the group through a visit to Adalaj step-well and a temple, participation in the International Kite Festival, lunch at a heritage hotel, visit and stay for three nights at Halvad to observe the educational interventions in rural primary schools, and interaction with the CEE team.

The group also participated in the International Conference on Education as a

Driver for Sustainable Development Goals, organised at CEE during January 11-13, 2016. The conference provided the participants a unique opportunity to interact with experts from around the world, learn from global experiences and share their own learning with a wider audience.

The programme also gave the Indian host schools and teachers an opportunity to interact with the group to learn about challenges for primary education in Australia and global experience in addressing them. The programme proved an enriching lifetime experience for the whole group.

16.2 Networking and Collaboration

16.2.1 Tenth International ESD Expert Net Meeting at Saltillo, Mexico

ESD Expert Net connects ESD experts in a global partnership and together they promote the international exchange to ESD and develop transnational approaches and strategies, which are then returned to Germany, India, Mexico and South Africa. They advise on the elaboration and implementation of educational policy and provide national and international concepts and products. Engagement Global performs the programme on behalf of the Federal Ministry for Economic Cooperation and Development.

CEE has been a partner organisation of the network since its inception. Mr. Satish Awate, Programme Coordinator, participated in this meeting held in Mexico in November 2015.

This meeting focused on sharing updates on ESD practices by members and country situations, and formation of working groups on Mentorship programme, Training of Trainers (ToTs), Material Development and Go

Global Garden activities among the members across the country groups. This meeting developed a two year plan of activities for the network members in all the above working groups. CEE members have committed to take active part in material development, mentorship programme and Go Global Garden activities of the network.

16.2.2 World Encounter on Sustainable Actions: Education for Resilient Societies, Saltillo, Mexico

The city of Saltillo, in Coahuilla state, Mexico hosted this international meet in November 2015 to exchange views and share ideas on the meaning of resilience in Education for Sustainable Development. It pondered upon questions of: How far is the idea of resilience suitable to enrich ESD ~ especially against the background of the current political framework. What are inspiring and transferable examples in Saltillo, Mexico and beyond for educating

resilient societies? What is needed to ensure good ESD practice in formal and non-formal education as well as lifelong learning?

This high profile event was chaired by the President of Mexico's Senate Climate Change Commission, with the participation of about 600 participants comprising ESD Expert Net members from India, Germany, South Africa and Mexico, mayors from different cities in Mexico, teachers and educators.

Mr. Satish Awate, Programme Coordinator, CEE and ESD Expert Net member gave a talk on the topic of biodiversity for resilience, where he shared learnings from climate changes in the past and how Indian communities coped with them, and the significance of biological resources to cope with the recent challenges of climate change. Through case stories from India, he highlighted the role of education in understanding and developing resilience.

CEE and the UN

Over the 30 years since its inception, CEE has worked on several short and long term projects with UN organisations, ranging from trailing new ideas and models at the local level, to establishing ongoing processes and networking at the national and international level. Some of CEE's activities in this area, including the more recent ones, are briefly described below.

17.1 United Nations Decade of Education for Sustainable Development (UN DESD) (2005-2014)

CEE was appointed as the nodal agency for the implementation of UNDESD in India by the Indian National Commission for Cooperation with UNESCO, Ministry of Human Resource Development, Government of India.

As part of the UNDESD, CEE launched the Journal of Education for Sustainable Development published by SAGE in 2007. CEE also organised four international conferences during this period:

- Education for a Sustainable Future ~ 2005
- Fourth International Conference on Environmental Education ~ 2007
- Ethical Framework for a Sustainable World ~ 2010
- International Conference on Biodiversity and Conservation and Education for Sustainable Development: Learning to Conserve in a Rapidly Changing world - 2012

Several of CEE's projects have been showcased as best practices or success stories in UNDESD conferences. Notably, Handprint: Action

Towards Sustainability, Samvardhan and Global Communities for Sustainability have been showcased during World Conferences on ESD.

In response to the UNDESD, the United Nations University (UNU) called for the development of regional networks for the promotion of ESD. These networks address local sustainable development challenges through research and capacity building. These Regional Centres of Expertise (RCE) are thought of as institutional spaces that are designed in order to strengthen the collaboration between educational, research institutions and other regional actors. It could take a form of a network or a centre, while potentially varying in size and affiliations as well as dealing with different areas constituting the subjects of ESD. CEE has initiated several RCEs in several parts of India, with varied focus to address local issue like biodiversity, urban sustainable development, etc.

17.2 Working with UN Organisations

CEE has worked on several initiatives with UNESCO, UN Habitat, UNICEF, UNEP and UNDP. A few of these are given below. Many of these programmes are reported in detail in the respective chapters/thrust areas.

UNESCO

- Man and Biosphere Programme in Nanda Devi
- Global Citizenship for Sustainability
- Joyful and Effective Teaching-Learning of Science in Maldives
- ESD Rice
- UNESCO Chair on ESD and the Human Habitat (with CEPT University)

UNEP

- Secretariat for the South Asia Youth Environment Network (SAYEN)
- Youth in SD
- Youth Action for Sustainability
- Sustainable Green Colleges
- Youth for Clean Air
- HCFC Phaseout Management Plans
- Media Workshops

UNICEF

- Towards Sustainable Schools
- Saral Shiksha
- WASH in Schools
- Conserving Biodiversity
- Anandshala

UNDP

- Low Carbon Campaign
- Post Earthquake Rehabilitation Programme
- CEE Himalaya s Project on MAPS in Uttarakhand (on medicinal plants)
- Endogenous Tourism
- Global Environment Facility ~ Small Grants Programme

17.3 CEE Initiatives with Rio Conventions

17.3.1 Convention on Biological Diversity (CBD)

At the 11th Conference of Parties (CoP) of CBD held in Hyderabad, India, CEE signed an MoU with CBD for a partnership focusing on ESD for addressing concerns of biodiversity conservation. The MoU focuses on enhancing

education training and awareness on conservation and sustainable use of biodiversity, globally.

CEE prepared a publication for the CBD with support from the MoEF&CC, National Biodiversity Board and the UNESCO, which is expected to serve as a tool for developing National Biodiversity Educational Strategies of different countries of the world.

The Green Wave, a tree planting campaign of CBD, marking the International Day for Biological Diversity on May 22, has been promoted and popularised by CEE.

17.3.2 UN Framework Convention on Climate Change (UNFCCC)

CEE with UNFCCC and UNESCO has developed case studies of climate change mitigation work, which highlight the role of education in climate change mitigation and adaptation.

17.3.3 UN Convention to Combat Desertification (UNCCD)

CEE did the Elucidation of the 4th National Report submitted to UNCCD Secretariat by India in 2010.

17.4 Current Activities

17.4.1 Background Papers for GEM

CEE has developed two background papers for the Global Education Monitoring (GEM) Report in 2016.

17.4.2 Global Action Plan

The end of the Decade saw the launch of the Global Action Plan by UNESCO, a programme that is seen as working with key partners in five broad Priority Action Areas:

-
1. Advancing policy
 2. Transforming learning and training environments
 3. Building capacities of educators and trainers
 4. Empowering and mobilizing youth
 5. Accelerating sustainable solutions at local level

More than 80 partners have started working on these areas; the partners are expected to undertake advocacy and communication; organize meetings, conferences, workshops and consultations; capacity-build and train teachers, administrators and other stakeholders; build partnerships and networking; enable policy and strategy development; and conduct research and innovation.

Mr. Kartikeya Sarabhai, Director, CEE is the co-chair of the first Priority Action Area ~ Advancing Policy.

As part of this, the preliminary Monitoring Report focusing on the activities conducted upto June 2016 has been prepared and shared with the key partners.

17.4.4 The UN Economic and Social Council (ECOSOC)

The UN Economic and Social Council (ECOSOC) at its Coordination and Management Session of April 2014 granted special consultative status to CEE. The consultative status for an organisation enables it to actively engage with ECOSOC and its subsidiary bodies, as well as with the United Nations Secretariat, programmes, funds and agencies in a number of ways.

Privileges and benefits of consultative status are:

- i. Attendance at meetings and access to the United Nations
- ii. Written statements at ECOSOC
- iii. Oral presentations at ECOSOC
- iv. Consultations with ECOSOC and its subsidiary bodies
- v. Use of United Nations facilities

17.5 Sustainable Development Goals (SDGs)

CEE has been closely involved with the international process of developing the Sustainable Development Goals (SDGs), with a view to ensuring that India's experience from a developing country's perspective is reflected in the global setting on Sustainable Development. CEE assisted the Ministry of Environment, Forest and Climate Change, Government of India, by providing discussion papers and inputs for international negotiations on the SDGs. These discussion papers gave an overview of where India stands vis-à-vis the Millennium Development Goals and developed scenarios as part of the international deliberation process on SDGs.

17.6 International Conference on Education as a Driver for Sustainable Development Goals (ESDG)

CEE organised the International Conference on Education as a Driver for Sustainable Development Goals during January 11-13, 2016, at CEE Ahmedabad, where over 750 participants from 22 countries shared their

thoughts on the role of education in realising the SDGs. The conference was organised in partnership with UNESCO, UNEP and the Government of India. The participants included senior officials from MoEF&CC, international ESD experts, environmentalists, academicians, researchers and students.

The Conference was inaugurated by Shri O. P. Kohli, Honourable Governor of Gujarat, in the presence of Alexander Leicht, Chief, Section of Education for Sustainable Development, UNESCO, Mahesh Pradhan, Chief, Environmental Education and Training Unit, Division of Environmental Policy Implementation, UNEP, Shri Susheel Kumar, Special Secretary, Ministry of Environment, Forest and Climate Change, Government of India, Dr. Ashok Khosla, Chairman, CEE Governing Council, and Kartikeya V. Sarabhai, Director, CEE. Video messages from Ibrahim Thiaw, UNEP Deputy Executive Director and Assistant Secretary-General of the United Nations, and Irina Bokova, Director-General of UNESCO, were also aired during the inauguration.

As part of the pre-conference events, workshops and partnership meets were conducted on 10th January, 2016, including a national workshop on Achieving Sustainable Development Goals - Opportunities and Challenges for India, which was organised by CEE in partnership with Niti Aayog.

Spread over three days, the conference had working group themes broadly corresponding to the Sustainable Development Goals (SDGs), and highlighted the role of education in achieving the targets for a sustainable planet. Each working group, after three days of discussions, came up with a set of

recommendations, which have been shared on the website. The Outcome Document of the conference has also been shared on the website.

Brief reports of the working groups have been included in the respective thrust areas. A few are also given below.

17.6.1 Working Group – Goal 4.2 - Early Childhood Development, Care and Pre-primary Education: Cornerstone for achieving SDGs

Ms. Rajeswari Gorana and Ms. Sukhprit Kaur facilitated the Goal 4.2 Working Group titled Early Childhood Development, Care and Pre-primary Education: Cornerstone for achieving SDGs. Child care and early education form the building blocks of early childhood development. A critical step to achieving SDGs is giving all children access to early childhood development, care and pre-primary education.

The panellists for the working group included eminent experts from India and abroad. A Recommendation of 16 points was made by the working group on the topic.

17.6.2 – Working Group – Goal 5 – Gender Equality and Empowerment of all Women and Girls

Dr. Prithi Nambiar, Executive Director, CEE Australia, facilitated the Goal 5 workshop sessions which focused mainly on the economic context (session 2), the socio-cultural context (session 3), the political context (session 4), and environmental context (session 5). During the deliberations and recommendations, the group acknowledged that:

Gender equality needs to be integrated in all the goals for the SDG agenda to be truly transformative. i.e Goal 5, just like education, is a cross cutting theme in SDGs.

We need to look beyond viewing gender as a binary concept by framing it ultimately as equity for every human being in a way that transcends differences by focusing on self esteem and the right to dignity for each and every person.

Several case studies and experiences were also discussed during the workshop. The group came up with a set of recommendations for advancing gender equality with education as the driver.

17.6.3 Working Group – Goal 13 – Combating Climate Change and its Impacts

The Workshop on Goal 13 was held in cooperation with the United Nation Framework Convention on Climate Change (UNFCCC) in six sessions during the international Conference Education as a Driver for Sustainable Development Goals. The participants discussed several aspects of the role that climate change education for sustainable development plays in meeting the climate change SDG and its targets as well as the Paris Agreement. Some of the issues discussed were:

- Up-scaling climate change from awareness raising to education within climate mitigation and adaptation projects as well as education for encouraging political action
- The role of education for implementing the Paris Agreement and how to strengthen education at the UNFCCC negotiations (Article 6/ACE)
- The role of education and communication by media and advertisement for impacting lifestyles
- Effective climate education for empowering children and youth
- The means of implementation of climate change education for sustainable development.

A diverse group of climate change educators, the Focal Point - Education, Training and Public Awareness of UNFCCC, representatives of Indian and international NGOs, researchers, entrepreneurs and students joined the workshop. The most central recommendation that emerged from the workshop discussion suggests that the national climate plans (Nationally Determined Contributions, NDCs, and the next round of Intended Nationally Determined Contributions, INDCs) should include an educational component to implement the targets.

18.1 Publication of Gram Nidhi Manual - Empowering Communities with Eco-entrepreneurship for Sustainable Livelihoods and Biodiversity: Manual for Community Facilitators

Asian Network of NGOs for ESD (ANNE) is a network of NGOs initiated by ESD-J (now known as Japan Council on Education for Sustainable Development). India, Japan, Philippines, South Korea, Indonesia and China are partner countries of ANNE; CEE is one of the partner NGOs of ANNE. During UNDESD, based on the NGOs Ahmedabad Declaration to Promote Asian NGO Network on ESD, the Asia Good ESD Practice Project (AGEPP) was initiated and implemented during 2006-2008. The CEE-initiated Gram Nidhi project was showcased here as one of the best practices. Eventually the network of NGOs was formally launched as ANNE in October 2014, with CEE being a partner organisation in both ANNE and ESD-J.

Considering the success and spread of Gram Nidhi concept, after more than 10 years of formal completion of the project, in creating innovative women-led eco-enterprises that are efficiently promote biodiversity conservation, poverty reduction and women empowerment, ANNE initiated a project to develop a manual for community facilitators across other south and south east Asian countries, based on the Gram Nidhi experience.

During the reporting year, a draft manual was prepared and circulated among the ANNE members. Based on the comments received from them, the RPG and ESD J teams jointly developed and published the final manual

titled Empowering Communities with Eco-entrepreneurship for Sustainable Livelihoods and Biodiversity: Manual for Community Facilitators. The project was funded by TOYOTA Environmental Activities Grant Programme. Originally published in English, the manual has already been translated into Japanese language.

18.2 Material Development – CEE Himalaya

18.2.1 Trilingual and Bilingual Standees

To support the Science Express Climate Action Special (SECAS) in the Indian Himalayan Region (IHR), CEE Himalaya converted 20 standees to carry the information given in the SECAS in different languages to address the diverse group of audience in IHR. Twenty trilingual (Urdu/Hindi/English) standees were developed for the audience in the state of J&K; and 20 bilingual (Hindi/English) standees for audiences in Himachal Pradesh and Uttarakhand.

18.2.2 Reports on Capacity Building Workshops for Media on Climate Change and Development in the Indian Himalayan Region

Eight reports have been developed by CEE Himalaya for four capacity building workshops for Media on Climate Change and Development in the Indian Himalayan Region: Shimla; Namchi; Srinagar; and Jorhat & Majuli Islands. For each workshop, two reports have been developed: a journalist report and a proceedings report. The proceedings report documents the workshops as they ran while the journalist report provides the gist of the deliberations made and discussions held.

18.2.3 Manuals for Capacity Building Workshops for Media on Climate Change and Development in the Indian Himalayan Region

Two manuals - Himalayas, Climate Change and the Media: A Trainers Manual and Himalayas, Climate Change and the Media: A Manual for Journalists - have been developed by CEE Himalaya and The Third Pole (TTP). These manuals will facilitate organisations/agencies like CEE in conducting workshops of this kind and will provide trainers with competencies that will enable them to effectively mentor journalist participants in understanding climate change and selecting issues for news report/feature. It would also help journalists who could not attend the workshops in covering climate change adaptation and mitigation issues with accuracy and understanding. Both the manuals have been submitted to the Swiss Agency for Development and Cooperation (SDC).

18.2.4 Films on International Mountain Day and Rebuilding Faith Programme

CEE Himalaya has developed two video films with financial support from JSW Foundation and technical support from Channel Mountain (CMC). The film on International Mountain Day (IMD) celebration captures glimpses of events conducted across the state of Uttarakhand on the occasion of IMD. The film on Rebuilding Faith Programme captures the June 2013 Himalayan tragedy, explaining the need for CEE and JSW intervention and describing the interventions undertaken in Uttarkashi district.

18.2.5 Year Planner on Sanitation (Hindi)

With the aim of promoting WASH and achieving ODF (Open Defecation Free) status, CEE Himalaya has developed a Year Planner (2015-16) on sanitation, which focuses on basic sanitation measures to be adopted by a household/community: personal hygiene, use of toilets, correct steps of hand washing, water storage, maintenance of water sources and clean premises.

18.2.6 Contributions to Geography and You Magazine

CEE Himalaya has been invited to share stories of its interventions and programmes across IHR by Geography and You (GnY) magazine. CEE Himalaya has therefore shared stories and reports related to its work in the district of Uttarkashi, Uttarakhand during the recent forest fires, World Wetlands Day 2016 celebration and community based disaster risk reduction. These can be found on the website of the magazine www.geographyandyou.com.

18.3 Reorienting Educational Efforts for Sustainable Development: Experiences from South Asia

The manuscript for the Easter Springer publication Reorienting Educational Efforts for Sustainable Development: Experiences from South Asia, under its series Schooling for Sustainable Development, which is co-edited by Rajeswari N. Gorana, Programme Coordinator - CMU, and Preeti R Kanaujia, Programme Coordinator - CEE North, has been submitted and the publication is slated to be released in the summer of 2016.

18.4 Booklets on Medicinal Plants

CEE Karnataka, in association with the Kudremukh Wildlife Division, developed three medicinal plant booklets for the three MPCAs (Medicinal Plant Conservation Areas) to educate tourists on the flora and their uses. These MPCAs include Kerekatte, Agumbe and Arshinagundi.

18.5 Individual Publications

- Sharma, P., Gregory, A. (2015) Learning to Live Sustainably: Reflections based on the Paryavaran Mitra Programme. Learning Curve Issue XXIV- Productive Work as Pedagogy (Azim Premji Foundation) (<http://teachersofindia.org/en/article/learning-live-sustainably>)
- Gregory, A. Sharma, P. (2015) Changing role of the teacher in building

environmental leadership skills amongst students - experiences from student environmental action. Presented at the International Conference for Creativity and Innovation in the Grassroots (ICCIG 3) (<http://www.iccig.org/>). Indian Institute of Management Ahmedabad, Gujarat, India.

(http://www.academia.edu/10355300/Changing_role_of_the_teacher_in_building_environmental_leadership_skills_amongst_students_-_experiences_from_student_environmental_action)

- Sharma, P., and Gregory, A. (2016). Paryavaran Mitra~Actions That Count: An insight into the experiences in the Paryavaran Mitra programme from the perspective of the programme implementers and the various stakeholders related to the school system. CEE, Gujarat, India.

Institutional Development and Support

19.1 CEE - Information Service Centre (CEE-ISC)

CEE ~ ISC has been established with a view to provide and disseminate information on Environmental Education (EE), Education for Sustainable Development (ESD) and related areas to cater to the needs of educators, researchers, decision makers and the general public.

ISC has a rich collection of books, journals, periodicals, reference books, children's books as well as books in Hindi and Gujarati.

During the reporting year, ISC continued to renew the subscriptions of journals and magazines, and also newly subscribed to a few. The institutional membership of Indian Institute of Management Ahmedabad (IIMA) Library (4 cards) and British Library (10 cards) was renewed. Nine new books were acquired during this year.

The automation of the collection through KOHA, the international open source Library Management Software, continued with 502 books being entered in the system.

19.2 Human and Institutional Development Activities

- Several meetings of Programme Directors Forum (PDF) were organised to discuss important institutional matters.
- An internal training workshop was organised for CEE staff members on Key Performance Areas (KPA) based Performance Management System. The KPA based system is being followed for all core staff members.
- Orientation and Induction training was conducted for three batches of new recruits.

The Orientation included familiarisation with CEE, its evolution over the past 30 years, its strategies and programmes, field visits, and familiarisation with the current systems and processes at the Centre.

- An internal training workshop on Rapporteurship was conducted by Ms. Shivani Jain for Programme Officers in November 2015.
- A series of internal training workshops were held at Ahmedabad and Regional Cells for orientation and sensitisation on Sexual Harassment at Workplace Act 2013 during August to October 2016.
- CEE Staff Health And Recreation Centre (SHARC) organised a Garba event during Navratri at CEE Ahmedabad and a cultural Garba evening during the International Conference on Education as a Driver for Sustainable Development Goals, held in January 2016.

19.2.1 Training Programmes Attended by Staff Members

Staff members were nominated and sent for relevant training programmes at different locations as part of HID activities. The details are as follows.

19.2.2 Staff Recruitment

During the year, eight staff were recruited under the Job Work Contract scheme and nine as Project Officers, to work on various projects.

19.3 Corporate Communications

September 2014 saw the integration of Corporate Communications as a functional responsibility at CEE. The team has, in the financial year 2015-16, executed the following activities.

Sr. No	Name	Topic	Organizing Agency	Location
1	Mr. Rajendra Jadeja	Wilderness First Aid Course	HANIFL Centre	Mumbai
2	Mr. Vatsalya Shukla	Three day Training Programme on Current Requirements in Environmental Impact Assessment (EIA):Processes and Procedures (as per MoEF Guidelines)f held on July 20-22, 2015	National Institute for Micro, small and Medium Enterprises (NI-MSME)	Hyderabad
3	Mr. Suman Rathod	Study Exchange on Adult Learning	Asia South Pacific Association for Basic and Adult Education (ASPBAE)	Manila, Philippines
4	Ms. Archana Panicker	One Day workshop on: Act on Prevention of Sexual Harassment at Work Place	Jyotisingh	Ahmedabad
5	Ms. Anuradha Tak			
6	Ms. Meena Nareshwar			
7	Ms. Toral Joshi			
8	Mr. Rajendra Jadeja			
9	Mr. Sureshababu N			
10	Ms. Rajeswari Gorana	Games Simulation	Fields of View (FoV)	CEE Ahmedabad
11	Ms. Shefali Atrey	Workshop		
12	Mr. Pramod Sharma			
13	Ms. Madhavi Joshi			
14	Mr. Prashant Moon			
15	Ms. Ketki Gadre			
16	Ms. Priyanka Sinsinwar	Basic Leadership Development Course	ASPBAE	Vietnam
17	Mr. Sanjay Tiwari	Workshop on Project Jalmarg	Inland Waterways Authority	Patna, Bihar
18	Mr. Praveen Prakash	Innovation for Entrepreneurs: From Idea to Marketplace	Ahmedabad Management Association	Ahmedabad
19	Mr. Y M Trivedi	Contextualising SD Goal 16	Janvikas	Ahmedabad
20	Mr. Ashwin Wasnik Ms. Richa Shivhare	Training on Environment Management of Renewable Energy Projects	Centre for Science and Environment (CSE)	Bhopal

19.3.1 CEE India Website

During the year, the team ensured regular updates of the Centre's activities on the website. This included development of the website, updates and coverage of the International Conference Education as a Driver for Sustainable Development Goals held in January 2016; coverage of the launch of the Science Express Climate Action Special; CEE's participation at COP 21 in Paris in December 2015; and the launch of the Parampara Catalogue. The website also featured activities organised by other offices, like the Save Sparrow Campaign initiated in Uttar Pradesh, the Yuva Samvaad ~ Regional Consultations on Sustainable Development and Youth Empowerment for Marginalised Youth organised in three states, and the rehabilitation efforts of CEE Himalaya to rebuild Uttarkashi.

Work on revamping the website continued, and the structure for a dynamic website is being prepared. As opposed to CEE's current website, which is static, the new website will be dynamic {Drupal content management system (cms)}, and will enhance the visitors' experience, both functionally and aesthetically. Existing information is in the process of being fed into the new structure.

Documentation for the exclusive section on the Centre's Programmes and projects continues. This page will act as a ready reckoner to CEE's programmes, featuring details about their initiation, partners, impact and beneficiaries.

19.3.2 Ceenario

Seven issues of the monthly newsletter Ceenario were published and circulated. These featured the programmes undertaken and initiatives made by various CEE offices across

the country. A special issue was also brought out on the launch of the Science Express Climate Action Special (SECAS).

19.3.3 Diary 2016

The CEE Diary for 2016 continued to carry the carefully crafted Handprint messages on every page, thereby encouraging Handprint actions among the users. The back cover of the Diary presented a glimpse of the Parampara Catalogue, which was launched by the Honourable Prime Minister of India Shri Narendra Modi at the 21st session of the Conference of the Parties (COP 21) to the United Nations Framework Convention on Climate Change (UNFCCC), held in Paris, in November-December 2015.

19.3.4 Booklet, Brochures & Other Promotional Material

Promotional material to put forth the Centre's initiatives and programmes were designed and developed.

- Prepared a booklet on CEE's work in the Indian Himalayan Region, as part of the proposal to the National Mission on Himalayan Studies Medium Grant and Large Grant Programme.
- Involved extensively with the content editing and designing of the coaches, and the take-away material, for the Science Express Climate Action Special (SECAS). The theme song for SECAS, used in the SECAS film, was developed by the team. The team also coordinated the translation and dissemination of the SECAS kits, in 11 languages, across the country.
- The team also contributed to the designing and development of the Parampara Catalogue, which was presented by the

Honourable Prime Minister of India Shri Narendra Modi at the India Pavilion of the Conference of Parties (COP 21) to UNFCCC in Paris, in November 2015.

- The Corporate Communications team was involved with the designing of the Guidebook on Nature Camping, prepared for the MoEF&CC.
- The team has also been involved with the editing of the book ~ Climate Action: Indian Initiatives on Adaptation and Mitigation .
- The Conference Kit for the International Conference held in January 2016, was developed by the Corporate Communications team.

19.3.5 Social Media

The team has been handling the social media accounts of the Centre. Updates of various programmes and initiatives are shared regularly on the Centre s Facebook page and Twitter handle.

Complaint under Sexual Harassment of Women at Workplace Act 2013

During this year a complaint of Sexual Harassment was reported at CEE. The Internal Complaints Committee (ICC) looked into the complaint and recommended the action to be taken as per the provisions of SHWW Act 2013, which has been done.

Events

20.1 World Wetlands Day – February 2

CEE Himalaya: With the support of JSW Foundation, CEE Himalaya celebrated World Wetlands Day in Kuroli village in Uttarkashi district, with 70 participants including men, women, elderly and children. Varied activities like group discussions, debates, paintings, slogan writing and plantations were conducted to sensitise people on the importance of wetlands and to empower them to take action locally to improve their condition. The benefits of healthy wetlands for the ecology as well as the community, and ways in which they can be tapped to generate income for the community (like herbal and medicinal plants and ecotourism) were discussed.

CEE North: In January 2015, CEE organised painting competitions in Lucknow and Bareilly districts as pre-events to the World Wetlands Day, in which teams from more than 25-30 schools participated. CEE team conducted an orientation session through a photo story explaining the theme for the day 'Wetlands - Save Our Future'. Eminent persons from the field of biodiversity were invited to judge the competitions and encourage the children's creativity. Winning students were given prizes and the best entries were sent for state level competitions.

20.2 National Science Day – February 27

CEE Himalaya: On the occasion of National Science Day, CEE Himalaya organised an exhibition followed by various activities for the people of Kuroli village located in Bhatwari Block, Uttarkashi District, Uttarakhand. The content covered by Science Express Climate Action Special was displayed on standees at the exhibition standees, besides 100 hand print

actions, ropes and ladders game, science kits, booklets and other IEC material. About 100 people participated in the programme, which was inaugurated by the Block Head of the district with the Gram Pradhan and other prominent dignitaries being present.

20.3 International Women's Day – March 8

CEE Himalaya: International Women's Day was celebrated with 50 women and adolescent girls at Kuroli village, Uttarkashi, Uttarakhand. It was observed that hill women are always occupied with household and farm work and hardly get any time for leisure or recreational activities. Therefore, CEE Himalaya organised various games, music and dance activities, and discussions for the participants. Participants described the plight of Garhwali women through traditional folk songs. Some women, especially the older generation, performed wonderful traditional folk dances. Discussions were conducted with women on personal hygiene, health issues, environmental and climate change impact on women, education, safety and security, and the role of women in developing an empowered and sustainable mountain community. During the interactions, hill women highlighted their frightening experiences while fetching water and collecting fuel and fodder, which, they asserted, are aggravating due to brunt of climate change in the entire mountain ecosystem.

20.4 World Sparrow Day – March 20

CEE North: In collaboration with the UP Forest Department, UP State Biodiversity Board (RCE Lucknow network partner) and University of Lucknow, CEE North conducted a state level Save Sparrow Campaign in the districts of

Uttar Pradesh. This campaign was an attempt, not only to conserve the Guraiya which is fast disappearing from the urban setups but also to motivate students to participate and contribute to the protection of sparrows and become a Paryavaran Mitra in the true sense. It was decided to provide sparrow nest boxes to schools and other stakeholder with orientation and also encourage children to take pledge for saving sparrow and biodiversity.

The campaign was initiated at the state level where CEE is engaged in various school programmes such as NGC, Children s Forest Programme, Ganges River Dolphin Conservation Education, Prakriti Bus and Paryavaran Mitra programme. CEE team conducted orientation sessions and encouraged students to take a pledge to protect sparrows, install nest boxes and arrange feed and water for the birds. Students were encouraged to prepare their own nest boxes using earthen pots and used shoe boxes. They were also given an opportunity to creatively express their thoughts in poems, drawings, stories, rangoli and tattoo. Recognising CEE North s efforts, Shri Akhilesh Yadav, Hon'ble Chief Minister of the state felicitated CEE for its work on sparrow conservation.

20.5 International Day of Forests – March 21

CEE Himalaya: celebrated the International Day of Forests with the people of Kuroli village, Uttarkashi district, by discussing about the services provided by forests and drawing their attention towards the urgency of increasing the green cover. Almost 60 people participated in the event. Activities included discussions, open dialogues, plantation and games. The discussions and dialogues helped in bringing out the changes in their traditional lifestyle

caused by the aggravating impacts of climate change on land, water and forests. CEE team promoted the plantation of traditional species to meet their increasing demand; the women of the community planted saplings of native species like baans (bamboo), deodar (*Cedrus deodara*), and oak during the event. At the conclusion, Kuroli community took a pledge to preserve the forests and trees through dedicated and sincere efforts.

20.6 World Water Day – March 22

CEE Himalaya: With the support of JSW Foundation, CEE Himalaya organised an event on the occasion of World Water Day at Kuroli village in Uttarkashi district. The event was attended by 83 people, largely women, adolescent girls, youth and school children. The objective was to direct the attention of the community to issues related to water availability and its judicious use, to take actions to address them and begin conservation measures. Discussions centred around the problem of water scarcity in the village and community based solutions for addressing the same. CEE Team tested the water quality at the traditional water collection point and demonstrated simple techniques that can be used at home to monitor the quality of water. Yuva Mangal Dal, along with CEE Team, initiated a Clean Drive in the village wherein the entire youth of the village was involved in cleaning the major collection point, small streams and drainages. The event concluded with a pledge for conserving and maintaining the fast depleting water sources.

20.7 Earth Day – April 22

CEE North: On the occasion of Earth Day, CEE North organised events in Lucknow and Bareilly districts. In Lucknow, 80 students and 20 teachers from nine schools participated.

More than 230 students and teachers from 25 schools participated in the Bareilly district event. The aim of the programme was to sensitise the students and teachers about the causes and negative impacts of climate change. CEE team, after an introduction to the importance of the day and the theme, screened a film on an environment action success story to make the students and teachers aware of environmental issues and ways to protect our environment. This was followed by a quiz, an exhibition on the theme of We can save the environment, and a painting competition on the theme of green cities, in which the students actively participated. A lecture on Earth Day was delivered by an expert. The Forest Department officials interacted with students and shared with them their ideas about the importance of greening mother earth. The programme concluded with prize distribution to the winning schools and students.

20.8 International Day of Biological Diversity – May 22

CEE North: Shri Kartikeya V. Sarabhai, Director CEE, was invited to be the chief guest at the national level workshop organised by the Uttar Pradesh State Biodiversity Board (UPSBB) on the International Biological Diversity Day held on May 22, 2015. The workshop was organised at Indira Gandhi Pratishthan, Lucknow. In his inaugural address, he spoke about the Sustainable Development Goals and how biodiversity conservation education is intricately linked to them. He engaged the audience with examples of how education acts as a driver of change for achieving sustainable development. He shared case studies of biodiversity education programmes being taken up by CEE in collaboration with various international, national and state level partners. He

encouraged the student workshop participants to document the biodiversity around them and urged the audience to promote greening with biodiversity. He appreciated the joint effort of CEE and UPSBB in initiating a mobile exhibition ~ the biodiversity bus. During the event, he presented prizes and certificates to winning students of biodiversity competitions. The biodiversity posters developed by CEE with the support of the National Biodiversity Authority were also released on the occasion.

CEE Himalaya: CEE Himalaya used both the International Day for Biological Diversity and World Environment Day as an opportunity to reinforce the objectives of Open Defecation Free (ODF) project and drew attention to this issue at Balrampur District, Uttar Pradesh.

More than 35 and 49 participants, respectively, were present in both the events. Several hands-on activities like the right ways of using a toilet, washing hands with soap, storage of drinking water, and observing personal hygiene were discussed and demonstrated.

International Day for Biological Diversity was also celebrated at three schools - Saraswati Vidhaya Mandir - Lakeshwar, Mahashya Shishu Mandir - Tiloth and Saraswati Vidhaya Mandir, Jyotipuram. Around 40 participants attended the event. The event included discussions, drawing competition for children and plantation.

20.9 World Environment Day – June 5

CEE North: Lucknow - In association with the NGC Nodal agency Directorate of Environment, and Regional Science City, CEE North, with the help of volunteers, organised an event for students and their parents, with green games and creative corners including

clay modelling, puppet making, snakes and ladders game and green tattoo making. Students registered for quiz and creative competitions. Experts addressed children on the environment theme and the event ended with prize distribution.

Bareilly - CEE Bareilly organised an event for children, youth and citizens on World Environment Day, which included a pledge campaign, painting competition and green games, at Company Garden, Bareilly. More than 110 children participated in the painting competition, while more than 350 citizens took part in the pledge campaign. After the competition, CEE team conducted educational games for children and visitors. Eminent persons were invited to address the group about the theme of the day. CEE team gave away the prizes to the winning students and certificates to the participants and volunteers.

Bahraich - CEE Bahraich Field Office organised a Paryavaran Gosthi in Raja Baundi, Bahraich. The Divisional Forest Officer, Bahraich was the chief guest at the event with other officials joining in. Around 80 community members including farmers, fisherman, youth and women participated in the programme. The group charted out a plan of action to improve the environment, health and sanitation conditions, through discussions. The chief guest and other guests planted trees in the village and all the participants took a pledge to care for and conserve the environment and the rivers around them.

Bettiah - CEE's Bettiah office organised two events on the occasion of World Environment Day. The day began with a panel discussion on the Role of media in environment and biodiversity conservation with over 25 people representing electronic and print media, CBOs

and local administration participating in the discussions. A panel of speakers expressed their views on the topic, and the participants shared their concerns about environment degradation and climate change.

The second event was a workshop on the Importance of Organic Farming in Environment Conservation which was conducted for farmers and youth from the dolphin project villages during the afternoon. This was held in collaboration with Central Bank of India-Rural Self Employment Training Institute, Bettiah and Gram Pragati, Bettiah. Over 30 participants including farmers, CBO representative, animal husbandry professionals, social activists and youth attended the workshop.

CEE Goa: CEE Goa State Office, in association with the Goa State Pollution Control Board, celebrated World Environment Day on June 5, 2015 at Sanskruti Bhavan, Patto Panaji. Activities included painting and poster competitions for students, best industrial practices exhibition and a quiz for Industry and government officials as well as a lecture series on the day's theme. Expert talks were followed by interaction sessions.

20.10 Global Hand Washing Day – October 15

CEE Himalaya: Global Hand Washing Day was celebrated in Government Primary School, Mastari in Uttarkashi district with 15 students and one teacher, to spread awareness on the benefits of hand washing and to work towards effective behavioural change. Correct steps of hand washing were demonstrated by CEE Himalaya Team to the students with every student repeating the steps thereafter. Soap was promoted as the single most cost effective health intervention. Students were also told

that hand washing alone is not enough as it only removes the visible dirt and is not effective in rinsing away the disease causing germs; using soap ensures that germs are also removed.

20.11 International Mountain Day – December 11

CEE Himalaya: CEE Himalaya celebrated International Mountain Day with Valmiki Basti who live largely in isolation, in Uttarkashi. Valmiki Basti is inhabited by nearly 90 households out of which only 10% households have toilets of their own. The remaining 90% households use five toilets constructed by the Municipality, but given the

number of people in the area, they prefer open defecation near the banks of River Ganges. There is no proper drainage system in the Basti, and all the sewage is drained into river. The majority of the Basti people depend on swine and poultry farming for their livelihood, while a few work as sweepers in the Municipality.

CEE sought to understand the environmental issues through their perspective. In addition to this, basic hygiene and sanitation measures that are essential for the community were outlined and shared with the help of the community. Natural disasters, disaster risk reduction and the importance of community participation in it were also discussed.

Facilitation, Networking and Participation

21.1 Facilitation

21.1.1 Information and Facilitation Centre, CEE Ahmedabad

The Information and Facilitation Centre (IFC) was set up in January 2008 to serve as an interface with the people of Ahmedabad, and with visitors at CEE and its sister organisations, providing an opportunity to orient them to Environment and Sustainable Development, including information on various schemes and programmes of the Ministry of Environment, Forest and Climate Change, Government of India.

The IFC has a menu of programmes and activities which include orientation and hands-on experiential learning opportunities for various age groups through three hour to week-long packages. The IFC also has a month-long summer programme for children, culminating on June 5 which is the World Environment Day. Outdoor activities include nature trails on campus, bird watching and field trips to natural sites. The IFC has been actively involved in developing a campaign around the theme of Safe Festivals^f. It also promotes eco-friendly products, displays environmental publications and information about latest publications. A database on participants of the various programmes of IFC and visitors to the IFC is being prepared and updated on a regular basis. It has over 3700 addresses listed to whom event information and other updates on special programmes at CEE are sent.

21.1.1.1 Orientation to Environmental Education packages

These were offered to a varied group of visitors to CEE. Generally planned as sessions of three hours, these include a Nature Trail, Environment Education activities and games,

and a film. Special components get added to this main package based on the profile of the group taking the package.

School groups: The IFC facilitated visits from many schools of Ahmedabad. The students groups varied from very young children from pre-primary classes to those from senior secondary classes. The IFC also had the opportunity to work with a group of visually challenged students from Blind People's Association (BPA), one of the prominent organisations in Ahmedabad.

The number of groups who have undergone the orientation programme facilitated by IFC during the reporting period:

Group	Number	No. of participants
Schools	25	2000 plus
University students and trainees	5	350 plus
Groups supported by NGOs	3	100 plus
Summer Programme students	1	100
Walk in Visitors		500 plus

Besides offering the orientation package, IFC facilitated field visits to Nature Education sites developed by CEE, namely, the Manekbaug plot and Sundarvan. The IFC facilitated linkages with other programmes within CEE such as connecting colleges to the SAYEN network in Ahmedabad.

IFC also plays a major role in helping with the media coverage to many of the Nehru Foundation for Development (NFD) programmes.

21.1.1.2 Birthday Package

IFC organised birthday celebrations for children at CEE's 14 acre Green Campus. The

package includes a nature trail, bird watching, film screening, quiz and lots of games focusing on the environment. The birthday girl or boy plants a sapling and has her/his name tag on it. Friends were given educational products developed by CEE as return gifts.

21.1.1.3 Safe Festival Campaign

Diwali Safe Festival Campaign: Posters were put up at various places talking about safe festival celebration. Mailers were sent to people making them aware about the health hazards and pollution created due to crackers.

Holi: A campaign was conducted to propagate the use of natural colours and create awareness about the harmful impacts of the synthetic colours sold in the market. Natural and herbal colours were sold from different outlets located at Vikram A Sarabhai Community Science Centre (VASCSC), H.B Kapadia School (Memnagar Branch), and IFC. The colours were procured from AURA Herbal wear - organic products entrepreneurs in Ahmedabad. Posters were put up at different locations. Pamphlets with tips on making homemade colours were distributed. Demonstrations were also held in schools and colleges on how to make natural colours at home.

Makar Sankranti Festival Campaign - Save our Birds: Mailers were sent to friends of CEE and other colleagues regarding the need to celebrate the kite flying festival safely so as to avoid hurting birds. Helpline numbers were provided so that people could contact in case they find injured birds.

Go Green Ganesha Campaign: CEE celebrated an eco-friendly Ganesh Chaturthi with Go Green Ganesha campaign. The two day campaign included workshops for primary and pre-primary school students. Traditionally Ganesh Chaturthi was a small

and intimate family affair where people used the fertile soil from river banks to create their own Ganesha idols. With time however, the festival has become a large scale commercial and community-based event, involving Ganesha idols which can be as tall as 70 feet and made of Plaster of Paris. These are later submerged in the river water and being non-biodegradable, cause extensive pollution. The Go Green Campaign at CEE, through presentations and stories, acquainted children with the story of Lord Ganesha and taught the value of enjoying the festival without harming the environment. They were also taught to make small Ganesha idols of clay.

21.1.1.4 Summer Programme for Children

A special vacation programme for children of age 5-13 years was conducted by IFC in May 2015. The month long programme was divided into different themes, each coordinated by a subject specialist from CEE. Themes included Green Planet, theatre and performing arts and others. These were broadly organised under the main theme Seven Billion Dreams. One Planet. Consume with Care. which was the World Environment Day theme announced by UNEP.

The programme included field trips, movie screenings, theoretical and practical session, activities and games. Participants were given certificates at the end of the programme. The children set up an exhibition of the products and materials they developed during the summer programme and conducted puppet shows on World Environment Day.

World Environment Day: IFC supported the programme, by sending mailers and invites to the general public. The Children s Exhibition gave the public a glimpse of the kids activities during the month long summer vacation programme.

Products like paper bags, candle stands, lampshades, and traditional diyas were exhibited and sold at the IFC. These were procured from organisations like UTTHAN and Blind People's Association (BPA) ~ the products were made by mentally challenged children and blind people.

21.1.1.5 Information Counter for MoEF

The Ministry of Environment, Forest and Climate Change has, as one of its important activities, the collection and dissemination of environmental information and the creation of environmental awareness among all sectors of the country's population. While the ENVIS centres set up by the Ministry carry out this function at a national level, a lot of relevant information on the Ministry's programmes is being made available through the Information and Facilitation Centre (IFC).

CEE had been running the IFC of the Ministry since 2005. In April-May 2015, the Ministry took over the IFC services from CEE, in compliance with recent government guidelines regarding outsourced services. The CEE Delhi team that was outposted to the Ministry, completed the handing over of the assets, accounts, services and functions, and has since reverted to the Delhi office.

21.1.1.6 IFC Memberships

IFC offers membership to citizens of Ahmedabad that will entitle them to participate in various activities, get invited to popular lectures and events, and get access to CEE's facilities like the library.

Training, Networking and Capacity building

21.2 Networking

21.2.1 Participation in Maharashtra Vikalp Sangam

The Maharashtra Vikalp Sangam is a gathering of civil society organisations and individuals working on alternative development practices and concepts. It held its fourth gathering at Sevagram, Wardha in October 2015, with a message and resolve to further promote practices and concepts that help achieve human well-being based on ecological sustainability and socio-economic equity and justice. The Sangam was co-hosted by 18 organisations including CEE, represented by Mr. Satish Awate, Programme Coordinator.

The Sangam included about 120 people working on agriculture and food, water, social justice, community rights, environment, media, arts, livelihoods, energy, child and women's rights, education, waste, forests, urban and rural issues, and others. More than 25 organisations from Maharashtra, Madhya Pradesh, Jharkhand, and Delhi participated. The three days of discussions included problems and solutions related to farming, fisheries, animal husbandry, food sovereignty and consumer issues, lifestyles, media, water, energy, education, economic systems, and livelihoods.

21.2.2 ESD ExpertNet Meeting

On behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ), the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), in cooperation with Engagement Global, implemented a capacity development programme aimed at improving the implementation of ESD in Germany, India, Mexico and South Africa.

CEE, which is a partner organisation of the network since its inception, participated in the meeting which was held in Mexico, in November 2015. Ms. Rajeswari Gorana and

Mr. Satish Awate, Programme Coordinators, attended the meeting, which focused on sharing updates on ESD practices by members, country situations and the formation of working groups on Mentorship programme, Training of Trainers (ToTs), material development and Go Global Garden activities.

The meeting developed a two year plan of activities for the network members in all the above working groups. CEE team committed to take active part in material development, mentorship programme and Go Global Garden activities of the network.

21.2.3 Asia Network of NGOs (ANNE) Meet

Asian Network of NGOs for ESD (ANNE) has been initiated by ESD-J (now known as Japan Council on Education for Sustainable Development). India, Japan, Philippines, South Korea, Indonesia and China are the partner countries of ANNE; CEE is one of the partner NGOs to ANNE.

During International Conference on Education as Driver for Sustainable Development Goalsf organised at CEE from 11th to 13th January, 2016 ANNE members meeting was held as a parallel side event. Along with the regular meeting agenda, the side event specifically focused on two aspects:

1. Discuss and share final comments on Gram Nidhi manual draft already circulated to them, based on their own country specific experiences and needs
2. Devise a strategy for enhancing applicability of the manual in their respective home countries.

ESD-J as well as ANNE members from Philippines, South Korea, Japan, Indonesia

and Australia, along with the CEE team representing India, participated in this side event. Mr. Katsunori Suzuki and Ms. Fumiko Noguchi from ESD-J also made presentations during the conference. ANNE members also participated in the other activities of the conference.

21.2.4 Roundtable Discussion on Management of Disposable Plastic Waste: Towards a sustainable strategy

CEE Kolkata team participated in the round table discussion on management of disposable plastics across the state. The discussion was organised on June 9, 2015 in Kolkata, under THE UK-KMC MoU on Low-Carbon and Climate-Resilient Kolkata. Ms. Reema Banerjee presented CEE s initiatives on the management of plastic waste and also made suggestions on the way forward for the state. The programme was attended by officials from the department of environment, Kolkata Municipal Corporation, Pollution Control Board, NGOs and consultants, apart from a team from the British High Commission.

21.2.5 Roadmap for Climate Smart Municipal Solid Waste Management for KMC

During the British Prime Minister David Cameron s visit to Kolkata on November 14, 2013, the UK Government signed a Memorandum of Understanding (MOU) with the Kolkata Municipal Corporation (KMC) on developing a low-carbon and climate-resilient Kolkata. Through this initiative, KMC intends to work with the UK Government to incorporate mainstream climate change within its plans to help the civic administrative body reduce greenhouse gas emissions, respond to the impacts of climate change and generate new

economic opportunities. The overarching project, titled Preparation of Climate-smart De-Centralized Integrated Municipal Solid Waste Management for The Kolkata Municipal Corporation,^f was conceived in order to identify and incorporate low-carbon, energy-efficient, de-centralised interventions in solid waste management (SWM).

CEE Kolkata provided inputs to this document for the sections on social and livelihood aspects, plastic waste management as well as waste to energy options.

21.2.6 Alumni Association at Vivida HSS

CEE Goa staff inaugurated an alumni association at Vivida Higher Secondary School on the occasion of Earth Day on April 22. The objective of the association is to organise various environmental awareness and action projects in the school and surrounding villages. CEE Goa State Office will be associated as the knowledge and technical partner for this.

21.2.7 Workshop on Promoting Good Quality EE Projects in Goa Schools

CEE Goa State Office, in collaboration with the Goa University, organised a workshop on Promoting Good Quality Environmental Education Projects in Goa Schools on July 21-22, 2015 at the Forest Training School, Valpoi. Prof. Madhav Gadgil, Visiting Research Professor at Goa University, Mr. Sujeet Dongre and Mr. Soubhik Paul, CEE Goa conducted various sessions, including a group activity to identify potential EE projects in Goa. Teachers identified several projects and later implemented them in their respective schools.

21.3 Participation

Conferences / Seminars / Workshops
Attended / Conducted by CEE Members

Mr. Sujeet Dongre

- Was invited by the Vedanta Ltd. to give a talk on Earth Day.

Dr. Abdhesh Gangwar

- Conducted a media workshop in Srinagar on Climate Change and Development for journalists during April 7-9, 2015. The workshop was part of the Indian Himalayas Climate Adaptation Programme of the Swiss Agency for Development and Cooperation and was a collaborative effort of CEE and The Third Pole (TTP). More than 30 media persons from J&K as well as across India reporting on Himalaya participated in it.
- Visited Republic of Korea on the invitation of RCE Tongyeong during May 21-25, 2015, to attend the opening ceremony of Tongyeong RCE Eco-Park and Sejahtera Centre for RCEs in the Asia Pacific, and also attended the 7th Tongyeong ESD International Forum 2015 on May 23, 2015 at Tongyeong City, Republic of Korea.
- Attended a two day content development workshop of the Science Express Climate Action Special Train on July 16-17, at CEE Ahmedabad. Shri Prakash Javadekar, Hon'ble Minister of State, MoEF&CC, representatives from the DST, MoEF&CC, Railways and subject experts were present during the workshop.
- Attended the one day "Network Programme on Convergence of Traditional Knowledge Systems for Sustainable Development in the Indian Himalayan

Region", organised by School of Environmental Sciences, Jawaharlal Nehru University (JNU), New Delhi, on August 8, 2015. This initiative and the meeting was part of India's National Action Plan on Climate Change.

- Attended a three day "Planning workshop for learning of IHCAP Phase I & to make suggestions for designing Phase II" on August 10-12, 2015 at New Delhi, organised by Climate Change Division of the Swiss Agency for Development & Cooperation (SDC). CEE Himalaya was awarded two mandates by SDC under IHCAP-I.

- Accompanied by Mr. T. K. Balappan, Chief Administrative Officer, CEE, visited Kathmandu, Nepal, during September 15-19, 2015, to do a rapid need assessment for CEE's rehabilitation interventions post the earthquake in Nepal, and to distribute Spirulina (a food, vitamin and energy supplement) to the students of the earthquake hit schools. CEE is planning to start rehabilitation work in Nepal.

- Participated in Community-to-Community Exchange and Capacity Development Workshop for Traditional Knowledge Holders held in Bengaluru, India from September 30 ~ October 5, 2015. The event was a collaboration between the multi-donor funded ABS Capacity Development Initiative implemented by GIZ, and organised by United Nations University-Institute of Advanced Studies (UNU-IAS), for sharing local experiences generated mainly across the African continent with community actors from India.

- Participated in the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) capacity

building task force meeting and Prototype Matchmaking Facility in India at the Wildlife Institute of India, Dehradun during October 18-23, 2015.

- Conducted a media capacity building workshop on climate change and development at Jorhat and Majuli Islands, Assam, for journalists during November 2-5, 2015. The workshop was part of the Indian Himalayas Climate Adaptation Programme mentioned earlier. More than 30 media persons from Assam and North-East reporting on the Himalaya participated in it.

- Attended the National Consultation of the Multi-stakeholders Himalayan Sustainable Development Forum, on December 29-30, 2015 organised by GB Pant Institute of Himalayan Environment & Development, DST and SDC supported under IHCAP.

- Attended the ESDG Conference at CEE Ahmedabad and coordinated the working session on SDGs 14 & 15 on January 11-13, 2014; also attended the Niti Aayog meeting on January 10 at CEE Ahmedabad.

- Attended the consultation workshop of the States of the Himalayan Region 2016 under the National Mission on Sustaining Himalayan Ecosystem (NMSHE) at the Conference Hall of Development Alternatives, New Delhi on March 10-11, 2016, and shared the work done by CEE under the two mandates given to CEE by SDC under IHCAP-I.

Ms. Harshada Gauns

- Was invited to give a talk for the students of Government High School, Dona Paula, on waste management on March 11 and 14, 2016. She guided students of Poiria High School on their environmental action

project related to coastal ecology and documentation of fishes and crabs in the low lying areas of Mayem in North Goa.

- Along with Mr. Soubhik Paul and Mr. Sujeet Dongre, attended a two day Biodiversity Awareness Workshop using Open Source Geospatial Software Tools, organised jointly by Goa University and IIT Hyderabad.

Ms. Rajeswari Gorana

- Facilitated a two day workshop for youth from universities and higher education institutions in Abu Dhabi, to support students in conceptualising and implementing Sustainability Action Projects (SAPs) in the community as part of the Sustainable Campus Initiative (SCI) of Environment Agency Abu Dhabi. The workshop focused on tools and techniques of project management, along with a deeper understanding of the sustainability issues of Abu Dhabi.
- Supported and participated in a Walkability Audit designed and conducted by Ms. Himani Tiwari, School of Architecture and Planning, Bhopal, as her internship work in CEE. The methodology adopted for the audit was based on the audits conducted by CAI-Asia, Shakti Foundation and Samarthiyam Group in Delhi. Ten people from CEE participated in the Audit.
- Along with Satish Awate, attended the international conference -- World Encounter on Sustainable Actions, which took place in Saltillo, Mexico, on November 24, 2015. Aimed at exchanging views and sharing ideas on the meaning of resilience in ESD, the conference pondered over various questions on the idea of resilience being suitable for enriching ESD.

- Along with Satish Awate, participated in a one day international conference - International Perspectives on Interculturality and Sustainability in Education, held on November 27, in Veracruz, Mexico. Organised by the Institute for Educational Research of Intercultural University of Veracruz, the conference held discussions on Global Challenges for Sustainability and Interculturality, Sustainability in Non-formal education, ESD within Schools and biocultural heritage, sustainability and education.

Ms. Himani

- Visited Uttarkashi from August 19 to September 21, 2015 as a resource person to conduct DRR Preparedness Programmes and Mock drills in 15 Intercolleges in three blocks - Dunda, Chinyalisaur and Bhatwari - as well as to supervise interns from TISS, Mumbai for their internship at CEE Uttarkashi Office.
- Visited Uttarkashi during March 4-16, 2016, to conduct meetings with Gram Pradhans and Panchayati Raj Institutions of Bhatwari block of Uttarkashi district, regarding nomination of one of the villages for the Earth Care Awards 2016.

Ms. Madhavi Joshi

- Made a poster presentation on the Designing with People Winter School programme, an initiative under the UNESCO Chair, at the World Environmental Education Congress, held in Gothenberg, Sweden, in 2015.

Ms. Preeti R. Kanaujia

- Represented CEE in the governing body meetings of Uttar Pradesh Participatory Forest Management and Poverty

Alleviation Project (UP-PFMPAP) which were held in Lucknow at periodic intervals. As a member, she provided inputs on forestry management, environment awareness and other activities of the project.

- Has been nominated as a member of the executive and steering committee under the Compensatory Afforestation Fund Management and Planning Authority (CAMPA), Uttar Pradesh.
- Is part of the committee formed by Uttar Pradesh Forest Corporation (UPFC) to discuss the possibility of initiating community driven eco-tourism in Suhelwa Wildlife Sanctuary. She attended several rounds of meetings and presented CEE's viewpoint and experience of similar community initiatives.
- Received an appreciation certificate and felicitation from Shri Akhilesh Yadav, Chief Minister of UP, on the occasion of World Sparrow Day, for her work at CEE on environment and biodiversity conservation.
- Was invited to make a presentation to the Governing Board of UP State Biodiversity Board related to CEE's work on biodiversity conservation through Prakriti Bus initiative.

Ms. Sanskriti Menon

- Made a presentation on Street Design with People, representing CEE and SUM Net, at the Technical Session on Designing Streets for Citizens, as part of the 8th Urban Mobility India Conference in November, 2015.
- Made a presentation on Pioneering democratic renewal initiatives in

developing countries: Challenges and opportunities in India at the Democracy in the 21st Century Conference organised by Bibliotheca Alexandrina in Egypt in December 2015, as part of her ongoing research work with Curtin University Sustainability Policy Institute, Curtin University, Perth.

Mr Gaurang Patwardhan

- Attended a workshop on Results Based Management for the UNDP biodiversity team held at Pondicherry during February 3-5, 2016. The annual biodiversity targets for different projects under the UNDP biodiversity portfolio were discussed and annual working plans were prepared.

Mr. Soubhik Paul

- Along with Ms. Harshada Gauns, attended a workshop on Development of Urban Planning organised by the Department of Science and Technology and ESRI India on September 4, 2015.

Mr. Vidya Bhooshan Singh

- Represented CEE North at the World Wetlands Day programme organised by WWF-India and Katarniaghat Wildlife Division, Bahraich. The theme of the one day workshop was "*New initiatives in Wetland Management of Katarniaghat Wild Life Sanctuary*". As a panelist to discuss the role of education in community mobilisation for wetland management, he made a presentation on how education as a driver of change helps in mobilising the community for the conservation and management of rivers and wetlands.

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6. Drinking Water and Sanitation
7. Education for Biodiversity Conservation and experiencing Nature
8. Interpretation
9. Urban Programmes
10. Waste Management
11. Sustainable Business and Climate Change
12. Eco System based Campaigns for Rivers, Mountains and Marine
13. Disaster Risk Reduction
14. Decision and Policy Makers
15. International Collaboration
16. Research in EE and ESD

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Documenting efforts to Conserve India's Living Traditions	www.paramparaproject.org
Paryavaran Mitra Programme, one of the largest sustainability and Climate Change Education programmes in the world	www.paryavaranmitra.in
Ethical Framework for a Sustainable World - hosted by CEE in partnership with Earth Charter	www.earthcharterplus10.org
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Our National Animal is fighting for its life, show your support	www.saveourtigers.com
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A platform for discussion on developmental issues of the city - Urban issues of Ahmedabad	www.amdavadma.org
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