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Positioning
GREEN TRANSFORMATIVE EDUCATION

As support towards implementation of
AGENDA 2030

PREFACE

GIZ in Asia - Green Education and the Agenda 2030

GIZ provides services in international cooperation for sustainable development, through projects and programmes in countries worldwide. The UN Agenda 2030¹, comprising the Sustainable Development Goals (SDGs), serves as a guiding framework for GIZ work in the international cooperation.

The Agenda 2030 strives for a transformative approach that requires a broad shift in values, norms, beliefs, attitudes and practices towards more sustainable societies. This ambition cannot be achieved by governance or technical approaches alone. Instead, the key to successful transformative change processes in a society are often individual and social groups' knowledge, attitudes and practices.

In the current debate on sustainable development, education and communication are the driving forces to facilitate learning and sensitization on environmental issues. Therefore, Green Education plays a key role in the achievement of SDGs. In this context, the learning goals are as ambitious as the SDGs. Loss of biodiversity, degradation of ecosystems, or climate change challenges cannot be understood without an understanding of the complex interactions between ecological, social and economic factors.

The Green Education Working Group (GEWG) of GIZ is a joint venture of two regional sector networks in Asia: TUEWAS on transport, environment, energy and water, and SNRD on natural resources and rural development. It maintains a network of Green Education practitioners who share knowledge and experiences with regard to Green Education in Asia and around the globe. As such, the working group aims at discussing and implementing innovative and change oriented approaches to Green Education.

During the joint sector network meeting in Bangkok in December 2016, the group decided to develop a common understanding on a concept of Green Transformative Education that positions this topic in the overall framework of GIZ's technical projects and programmes. This is why GEWG initiated a systematic collection and review of Green Education approaches used by GIZ project in Asia: What really is Green Education? What does it have to do with the Agenda 2030 and its Sustainable Development Goals? And how does Green Education and the Agenda 2030 affect GIZ projects in the region in terms of success stories, lessons learned and challenges?

Through this position paper, we are not only reflecting and analysing region-wide experience of GIZ in the field but also wish to generate debate on approach and mechanism which technical cooperation programmes adopt to promote pro-environment behaviour. The results from inputs shared and feedback to a questionnaire sent out to the working group members are presented in this paper. The paper is an attempt to motivate other projects to learn from the experiences how Green Education can contribute to result-oriented behavior change that promotes sustainable societies in the context of Agenda 2030.

¹ The 2030 Agenda for Sustainable Development comprises of 17 Sustainable Development Goals (SDGs) — adopted by world leaders in September 2015. Using SDGs, countries will mobilize efforts to end all forms of poverty, fight inequalities and tackle climate change, while ensuring that no one is left behind. Build on the success of the Millennium Development Goals (MDGs) and aim to go further to end all forms of poverty, the new Goals are unique in that they call for action by all countries, poor, rich and middle-income to promote prosperity while protecting the planet. They recognize that ending poverty must go hand-in-hand with strategies that build economic growth and addresses a range of social needs including education, health, social protection, and job opportunities, while tackling climate change and environmental protection.

EDUCATION FOR PRO-ENVIRONMENTAL BEHAVIOUR as a driver for SOCIETAL TRANSFORMATION

Daniel Kehrer, Cristina Kamlage, Shailendra Dwivedi and Snigdha Kar

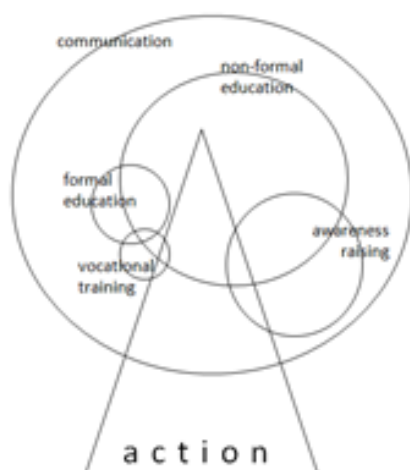
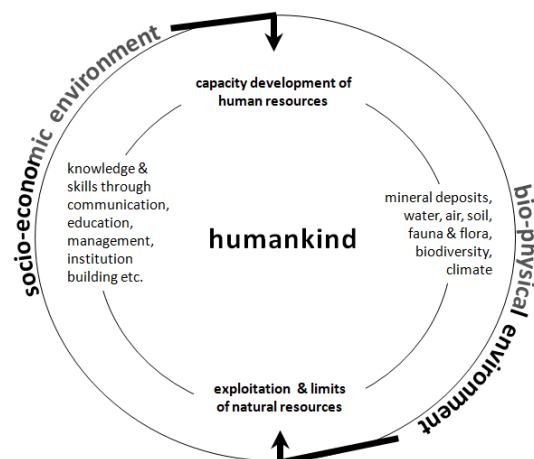
"Transformative change (...) involves changes in all three dimensions of the 2030 Agenda for Sustainable Development: economic, environmental and social. It requires changes in economic structures to promote employment-intensive growth patterns that ensure macroeconomic stability and policy space. (...) It also means changing norms and institutions, both formal and informal that shape the behaviour of people and organizations in the social, economic, environmental and political spheres."

United Nations Research Institute for Social Development

As outlined in the Preface, the Agenda 2030 strives for a transformative approach that requires a broad shift in values, norms, beliefs, attitudes and practices towards more sustainable societies. In this debate on sustainable development, education and communication are the driving forces to facilitate learning and sensitization on environmental issues. To a large extent, perceptions of the environment are determined by cultural contexts, visions, lifestyles and value judgments acquired through communication and education. And criteria and options for decisions regarding sustainable practices are a result of public discourse and transparently communicated and learned alternatives.

Therefore, Green Education plays a key role in the achievement the SDGs, particularly Goal 4 Education, Goal 12 Cities, Goal 13 Climate Change, and Goal 15 Ecosystems. In this context, the learning goals are as ambitious as the SDGs. Loss of biodiversity, degradation of ecosystems, or climate change challenges cannot be understood without an understanding of the complex interactions between ecological, social and economic factors.

As indicated in the adjacent chart, Green Education works at the interface of humankind and nature - an interdependent link determined by a socio-economic environment that mobilizes human resources as well as a bio-physical environment that exploits or is limited by natural resources.

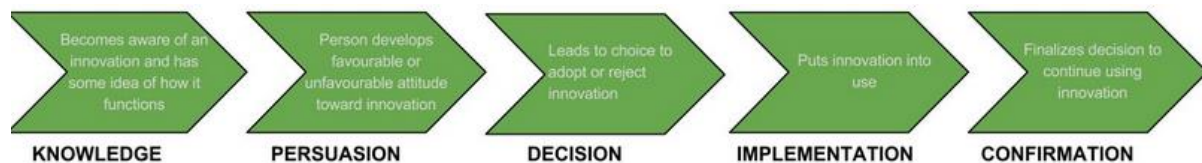


Green Education brings together formal, informal and non-formal education and communication approaches on environmental, biodiversity and climate protection issues that combine social learning, the generation of knowledge, and participatory methods. It empowers people to become informed citizen and take action by providing knowledge and skills to protect the environment, to take part in local, national and global governance and, to influence decision making process through peaceful participation. Green Education combines knowledge and information transfer and communication processes with pedagogically innovative and participatory methods to sensitize and raise awareness about environmental sustainability, and at the

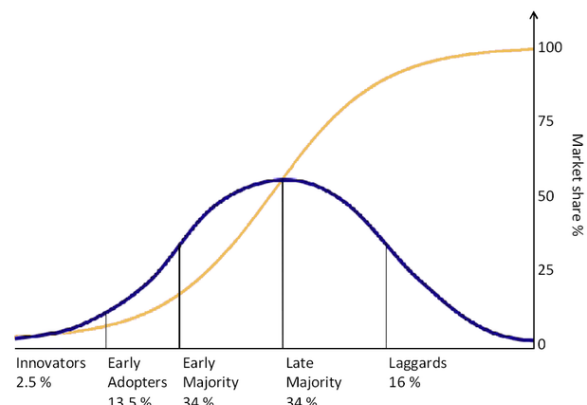
same time foster an understanding of actions and approaches to solution.

GIZ was one of the first organizations worldwide that defined environmental education after the Rio Conference in 1992². The adjoining action tree of environmental education & communication incorporates partly overlapping fields such as communication, non-formal education, formal education, vocational training and awareness raising. As these fields have different immediate action potentials, they can be used for short, medium and long-term educational and communication strategies.

What these older versions of environmental education & communication have in common with contemporary models of transformative education are aspects based in the diffusion of innovation concept of E.M. Rogers, one of the founders of development communication and change management³. One aspect is the five stages of the change process:



Another aspect is the way a new idea is communicated over time among the participants in a social system. This process relies heavily on human capital as the innovation must be widely adopted in order to self-sustain. The categories of adopters are innovators and early adopters - also called 'change agents', early and late majority, and laggards. With successive groups of citizens adopting the new practices, its prevalence in a society will eventually reach the saturation level.



Further, there are many institutes, both at government and non-government levels working towards promoting education for pro-environmental behaviour. Unfortunately, few educational programmes have had substantial impacts on people's actions for environment involvement. One of the factors that underline the 'gap' between knowledge and action⁴ seems to be the disparity between general pro-environmental attitudes and values, and the specific motives and intentions needed to undertake the actions. The gaps may include social norms, poor physical facilitation and lack of community involvement. Therefore, education must adopt holistic perspective which examines the ecological, social, cultural and other aspects of particular problems.

In this light, the current GIZ portfolio related to environmental and climate education has serious limitations because many methodological approaches are supply-driven trainings and human capacity development (HCD) measures based on conventional, "partner-based" needs assessments. Few measures are participatory and target group-oriented. GIZ needs to develop systematic approach to promote societal transformative agenda especially when target audiences lack environmental awareness or have less formal education.

² Umweltbildung. Erwartungen-Erfahrungen-Empfehlungen, Bonn, GTZ-PVI 1994

³ see Rogers, E.M. (1962) The diffusion of innovation, and Singhal, A., Pant, S. and Rogers, E.M. (2000) Environmental activism through an Entertainment-Education radio soap opera in India', in Oepen, M. and Hamacher, W. (Eds.): Communicating the Environment: Environmental Communication for Sustainable Development, pp.176-183, Peter Lang, Frankfurt.

⁴ Kollmus, A., & Agyeman, J. (2002), Mind the gap: why do people act environmentally and what are the barriers to pro-environmental behaviour? Environmental Education Research Vol 8 No. 3

Global trends show a different direction. There is no future for education systems established during the industrialization period of the 19th century, focusing on standardized knowledge and extrinsically motivated learning. New approaches such as transforming education will replace them, and conventional places of education will be more and more replaced by new patterns of learning and a learning culture supported by new technologies for all age groups and social strata.

The current TUEWAS/SNRD portfolio in Asia covers 26 projects in 15 countries, eight of which have green education-related indicators. None of them is formally using a Green Education approach, some of them are represented in this magazine.

Therefore, the future GIZ Green Education approach and portfolio has a mission to support the Agenda 2030 process through education for pro-environmental behavior not only by experts but by the public. Its vision enhances education for pro-environmental behavior as a driver for national, regional and international transformation processes. The transformation towards environmentally safe and climate-resilient societies is an open search process. Education and social learning are essential in this search and social negotiation process. GIZ takes people along the challenges brought about by change and new qualifications. GIZ supports processes that combine globalized content with local knowledge and locally adapted communication solutions.

Some of the trends and examples are fostered by Industry - linkages between companies get stronger by worldwide data networks and globalization increases. This partly internationalises the development of related competences, while ICT pushes advanced education options into the informal sector. Education for pro-environmental behavior has to be seen as a cross-sectoral topic in vocational education, which ICT detaches from physical space.

In terms of methodological approaches, green transformative education for pro-environmental behavior is based on a new quality of public and private capacity building concerning content, methods, instruments, creativity and communication. Affective and cognitive forms of learning as well as available media and digital possibilities are combined in a holistic way. Learners take part in shaping transformative education for pro-environmental behavior by establishing formal curricula. Poor strata of the population take part in creating learning opportunities and contribute to holistic education.

The future portfolio of education for pro-environmental behavior need to be an integral part of many programmes and initiatives, no longer an isolated topic but integrated into transformative projects concerning economic development, consumption, mobility, etc. Concerning tertiary education, GIZ will develop and support curricula promoting systematic and normative knowledge about environmental effects. This bridges the gap by communicating effectively thereby creating an enabling environment that promotes sustainability among all the stakeholders, be it children, youth or adults.

GIZ supports strategic partnerships between international and national educational organizations and media in order to develop innovative learning opportunities. Access to existing networks and support to new networks will help foster transformative education at the EU and global level. In addition, GIZ especially supports education and research alliances between the global North and South.

**Addressing challenges for
protecting environment
through
GREEN
TRANSFORMATIVE
EDUCATION in Asia**

The Promotion of Climate-related Environmental Education in Laos

Manfred Oepen and Cristina Georgii

The Promotion of Climate-related Environmental Education project, or ProCEED, in Laos is implemented by the Lao Ministry of Natural Resources and Environment (MoNRE) and GIZ. It aims at improving the knowledge, attitudes and practices related to the environment, biodiversity and climate change through communication and education in selected rural target areas.

A knowledge-attitude-practice (KAP) survey the project conducted in 2012 revealed that the rural population as well as decision makers and opinion leaders lack an understanding of the correlation between sustainable development and environmental protection. This low environmental awareness is a substantial challenge because the national economy is highly dependent on natural resources. Rural people's livelihood depends on forest ecosystems and smallholder agriculture, which are threatened by unsustainable hunting and timber exploitation, hydro-power development, mining and monoculture farming.

ProCEED applied a special step-by-step environmental education and communication strategy (EECS) developed by GIZ.

Stage 1 Assessment

- Step 1 Situation analysis and problem identification
- Step 2 Audience, and Knowledge, Attitude and Practices (KAP) analyses
- Step 3 Communication objectives

Stage 2 Planning

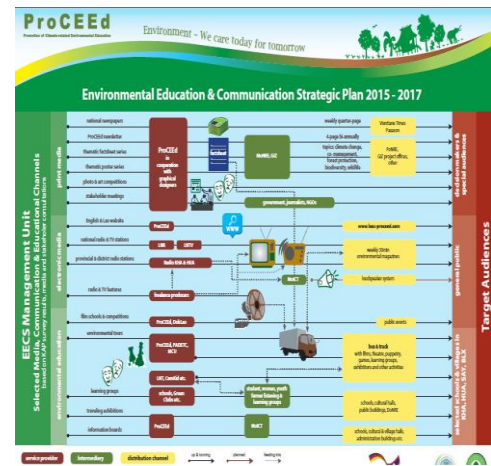
- Step 4 Communication strategy development
- Step 5 Involvement of partners
- Step 6 Media selection and mix

Stage 3 Production

- Step 7 Message design
- Step 8 Media pretesting and production

Stage 4 Action & Reflection

- Step 9 Media performances & field implementation
- Step 10 Process documentation, and Monitoring & Evaluation (M&E)



The wide variety of communication channels and educational tools employed in the well-coordinated multi-year EECS mutually support each other. All of them are based on an infotainment approach and are documented at www.laos-proceed.com. The EECS was based on intense human capacity development for journalists, NGOs and government officials.

Communicating for the Environment

Between 2013 and 2017, ProCEED produced flyer and poster series on the 10 most crucial facts on climate change, forest protection, wildlife and biodiversity conservation, and national protected areas. Regularly, 42 articles on the above topics, and 75 WebNews on environmental topics and project activities appeared in major national newspapers and on the ProCEED website. A pre-tested comic book on wildlife conservation distributed in 2016 was much appreciated by children and adults alike.

In 2014, ProCEED experts produced a prototype of a 30-min environmental magazine format for a weekly national radio (LNR) and TV (LNTV) program, Our Environment. Ever since 2015, LNR and LNTV followed this up with series of three 15-min features on the local situation regarding climate change, forest protection, wildlife and biodiversity conservation, and national protected areas. The series were broadcast nationwide and on provincial and district radio stations in Khammouane Province. Each production was closely supported and quality controlled by a ProCEED radio and TV coordinator. A total of 12 feature film episodes and 68 radio episodes were produced and broadcast several times, 12 of the latter also in Khmu and Hmong ethnic language. In 2017, the ProCEED TV and film coordinator started an innovative line of productions together with students and faculty members of the National University of Laos and an NGO who were trained in animation and film production skills and environmental know-how for video clips with easy-to-understand environmental messages, which were to be broadcast by LNTV. According to Manfred Oepen, "progress takes roots

when the environment becomes a regular part of media programs, at least twice a month. Just a few features or spots here and there will not change environmental attitudes and behavior."

A second KAP survey in 2016 showed that the media ProCEED helped produce contributed to an increase of environmental knowledge and improved environmental attitudes among target groups. Almost 66% of more than 1,400 respondents had watched, listened to or read one of the ProCEED-supported media productions. Media users felt better informed than non-users about climate change (+21%) or the extinction of animals and plants (+15%). The capacity development investments resulted in a new generation of environmental journalists at the provincial and district level. According to the ProCEED media coordinators, the outdoor and interactive formats they introduced have proven successful but need to be maintained to become part of Lao media's corporate culture.

Non-Formal Environmental Education in Laos

ProCEED is the first project in Laos that has fostered a non-formal environmental education strategy by a government organization. Focusing on human capacity development, the strategy combines three main approaches: Regular environmental tours to remote villages with a bus and a truck, side events at major social happenings, and a variety of awareness raising activities at the local level. All these approaches have a few general elements in common. They all promote major facts about ProCEED's five main themes: forest protection, biodiversity conservation, climate change, wildlife conservation, and co-management of national protected areas. They all combine fun and entertainment, educating people in an attractive and relaxed atmosphere. And they all stimulate the brain for knowledge, emotions for motivation and action for a behavior change - called the Head-Heart-Hand approach.

A core objective is to make people aware of how human activities influence the environment around them. This helps them understand how they can act in a more responsible and sustainable way, for example by using local knowledge, finding less harmful alternatives, or just communicating to raise awareness and sensitivity about environmental protection in their community.

The most prominent example of ProCEED's education work are the environmental tours. Since 2013, a bus and a truck have regularly been visiting towns and more than 80 rural communities in four Lao provinces. The vehicles bring edutainment to communities. They transport teams and props required for learning games, interactive exercises, and theater performances. The vehicles come with a cinema-size screen and solar-powered electricity to show environmental films or presentations. Well-trained MoNRE and NGO facilitators stay for one day in each village, working with adults in the morning, with schools in the afternoon, and having a colorful community gathering in the evening. Moreover, the ProCEED teams have also run environmental education programs for government officials, which typically take a half day per visit.

ProCEED's second approach to non-formal environmental education is to integrate activities into the programs of major social events such as festivals. Complementary to the tours and events, there are also project outposts in the provinces of Houaphan and Khammouane. Small teams of volunteers, government officials and ProCEED advisors have brainstormed, designed and implemented various environmental education activities at schools or rural markets.

In 2017, ProCEED has published three volumes of a manual on "Environmental Education and Communication in Laos". The manual incorporates results and experiences related to the environmental tours, environmental education and communication activities and related human capacity development efforts accomplished by the project between 2011 and 2017. The three volumes are available online for perusal and download.

project title	Promotion of Climate-related Environmental Education (ProCEED)
project objective	improving the knowledge, attitudes and practices related to the environment, biodiversity and climate change through communication and education in selected target areas in Laos
project partners	Ministry of Natural Resources and Environment (MoNRE), PADETC/Mind Media, Mobile Conservation Unit/National University of Laos, Lao National Radio and Television
project duration	2011 - 2019
web	www.laos-proceed.com

Biodiversity Education and Outreach in India

Laxmikant Deshpande (GIZ Consultant)

The Conservation and Management of Coastal and Marine Protected Areas in Maharashtra (CMPAs) project in India has been undertaken by GIZ in association with the Ministry of Environment, Forests and Climate Change, and the Maharashtra State Forest Department. The conservation education and outreach action plan for three locations have been developed to contribute to site-based activities and research initiatives through participation of local stakeholders for improvement of conservation efforts and sustainable use of biodiversity, and for sustainable planning and management of the CMPAs.

The education outreach activities are proposed at two levels – generic with common messages for all stakeholders, and specific with targeted messages for selected stakeholders. The conservation education and outreach plan was developed by *Sahyadri Nisarga Mitra* (SNM), a non-government organization, with inputs from other related project activities. As a trust building initiative, SNM conducted three education activities in every village to involve local teachers and students during the project period. A set of education materials were developed and provided to all schools. These activities helped the SNM team to interact with the schools, identify common issues of their interest with the CMPA and evolve their role in the 2014-17 education and outreach plan.



One of the pilot locations is the stretch between Velas in Mandangad taluka and Anjarle in Dapoli taluka of Ratnagiri district. In 2014, SNM conducted education outreach activities among the local stakeholders. The target groups were schools, Gram Panchayats and villagers. The activities included creating biodiversity libraries in local schools, celebrating select environmental days with the schools and the villagers, and creating permanent exhibits. The activities and deliverables can be summarized as below:

No.	Activity Description	Quantity
1	Setting up of biodiversity libraries in schools	11 schools
2	Jigsaw puzzles	100 puzzles
3	Printing of posters	300 posters
4	Printing of banners	50 banners
5	Photo printing and framing	100 photos
6	Targeted activities on at least three special dates	9 events in 3 villages

SNM organized an event on 24th November 2014 with the local schools with the objectives of handing over the developed education outreach material to local schools, discussion with the teachers on appropriate use of the material, collecting feedback from the teachers about the activities conducted and materials developed and a discussion on the way forward. The event was conducted at *Zila Parishad* (district council) 1 Primary School at Kelshi and was attended by the representatives of the project team and local schools. The teachers offered their valuable feedback such as the need for education material in Urdu, a biodiversity library in Urdu and a training workshop for the teachers from

Dapoli taluka. A representative set of the education material was handed over to the participating teachers.

Lessons learned from these activities has helped SNM develop a matrix of stakeholders, issues, messages, media, responsibility, timeline, required resources and assumptions. The matrix will serve as a reference during planning, implementation and evaluation of the education outreach plan for 2014-17. The matrix suggests 40 messages and activities for 12 stakeholders which includes fishermen, homestay and hotel owners and staff, Biodiversity Management Committee, Gram Panchayat, local residents, tourists, conservation NGOs, youth groups, plantation owners, Forest Department, schools, and media representatives. Since these awareness-education activities contribute to site based interventions, their timely implementation is necessary for this plan. The matrix suggests that the responsible agency, supported by other stakeholders, is to conduct awareness activities.



project title	Conservation and Management of Coastal and Marine Protected Areas in Maharashtra (CMPAs)
project objective	support public and private stakeholders in adopting economic approaches for the conservation and sustainable use of biodiversity as well as for the balanced and fair sharing of the benefits arising from their use
project partners	Ministry of Environment, Forest and Climate Change (MoEFCC)
project duration	2012 - 2020
web	https://www.giz.de/en/worldwide/16860.html

Children Painting their Green Ideas in India

Snigdha Kar

Children are ambassadors of change. Raising awareness about current environmental issues among children leads to multiplier effect as it can generate change in their families, friends, teachers and further in the society.

But this must be done in the way children enjoy. This is where painting comes in as this is an activity that all children love. Therefore, the Bureau of Energy Efficiency (BEE) under the Ministry of Power in India has turned to the idea of creating environmental awareness through a painting competition among school children. Supported by GIZ, the competition has been held at the school, state and national level since 2005.

In 2016, the competition's theme was how children can contribute towards energy savings that in turn reduce greenhouse gas emissions. First, children were introduced to information and knowledge on energy conservation at school. The paintings drawn by children reflected their interest in energy conservation activities and their concern about energy crises and climate change. The children effectively conveyed inspiring ideas in their impressive paintings with vibrant designs. The confident depictions of the topic and remarkable composition presented in the paintings reflect a clear understanding of the subject matter.

The national level award ceremony was held in Delhi on 14 Dec 2016, the National Energy Conservation Day, in the presence of the Minister of State for Power, Coal and New & Renewable Energy, Shri Piyush Goyal. He handed over certificates and prizes to the winners of the national competition. The prize included a BEE publication that holds a collection of all the winning paintings from all states and Union Territories along with a cash prize of INR 1,00,000 for first position, INR 50,000 for second position and INR 25,000 for third position. There are six consolations prize of INR 10,000 each as well.

The interest in energy conservation that is generated in the children, their parents and families as result of this painting competition suggests that the objective of enhancing awareness on use of energy, particularly in the domestic sector it has been met.

This is a case in point of the growing consensus that education should be oriented towards sustainable development. Education for sustainable development (ESD) is particularly important in the Indian Subcontinent, where climate change, extensive use of resources and forest degradation have emerged as major threats to humankind.





project title	Grid integration of renewable energy and demand side energy efficiency (IGEN-EE)
project objective	Improving market mechanisms and conditions for renewable energy and energy efficiency
project partners	Ministry of New and Renewable Energy (MNRE), Ministry of Power (MoP)
project duration	2015 – 2020

Environmental Awareness Raising in India

Snigdha Kar

Sustainable and Environment-friendly Industrial Production Project

The Sustainable and Environment-friendly Industrial Production project conducted a one-month Industrial Environment Improvement Drive in the Patparganj Industrial Area in Delhi in 2016. The Industrial Area is spread over an area of 134 acres housing 600 medium and small scale industries, and is surrounded by residential area: home to many housing



park.

The transformation of the open waste dump into a beautiful park was accomplished within six months and the efforts are continued to protect the area. This park adds scenic beauty to the neighbourhood and provides a place where the industrial workers and many birds come to relax. The regular maintenance work is carried out by local authorities so that sustainability is safeguarded.



societies and apartments. Through the drive, plantation activity was carried out in an old junkyard site. The construction debris and 1,375 tons of solid waste dumped there for many years were removed. Then the soil in the park was leveled, fresh soil and manure were added to the park and plantation started. Continuous efforts were made to protect these saplings for maximum survival. Merging into the landscape, a pond designed to harvest rainwater through a natural slope has been developed in the

project title	Sustainable and Environment-friendly Industrial Production
project objective	support the Indian public and private stakeholders in jointly implementing strategies for efficient, environment-friendly, and climate-friendly industrial development
project partners	Ministry of Environment, Forest & Climate Change (MoEFCC)
project duration	2015 - 2019

Indo-German Environment Partnership Programme

In 2013, the Indo-German Environment Partnership Programme, preceding project of Sustainable and Environment-friendly Industrial Production also conducted an environmental drive at the Information Technology Parks in Telangana State that cater to industries such as Microsoft, Infosys, TCS, Wipro, or Tech Mahindra, and employ over 5,000 people. The aim of this drive was to motivate industries to retrofit the existing structure to environmentally friendly green buildings that include proper waste management, sustainable transportation, rain water harvesting plantation etc.



As a result, five IT companies signed an expression of interest to join the programme and have shown commitment to make the necessary investments. The Telangana State Government, in appreciation of this positive move by the companies, announced a token fund of INR 500,000 for appointing supporting experts as an incentive to each industry ready to undertake retrofitting of their premises.

project title	Indo-German Environment Partnership
project objective	decision makers at national, state and local levels are developing environment and climate policies that support inclusive economic growth that does not depend on resource consumption
project partners	Ministry of Environment & Forests (MoEF)
project duration	2012-2015

develoPPP.de programme

The develoPPP.de programme in India with its private partners used various creative media to build awareness about the issues pertaining to e-waste. The youth enrolled under the programme used street theatre, role plays and songs to engage with their audience. The target groups for this intervention mainly comprises electronic repair shop owners and customers at these shops. The young people explained to their audience what e-waste is and what are the proper methods and channels to dispose of them. The programme also created awareness about the importance of proper collection and dismantling of e-waste and, in cooperation with a local women self-help group, its implications on health. Members of the women's groups were trained on ways for environmentally friendly collection and dismantling of e-waste. Increased awareness among the public resulted in increased collection of e-waste by the women's group. The programme had positive impacts on the health and income of the women.



project title	Transforming the consumption patterns in selected Indian cities with a focus on sustainable e-waste management
project objective	improve the collection and recycling of e-waste from mobile phones and accessories in a more efficient and sustainable way in selected target cities of India, enhancing the consumption behaviour of students and youth and improving the working conditions for informal waste collectors
project partners	Microsoft India Pvt. Ltd. (earlier NOKIA)
project duration	2012 – 2015

Picture Series for the Kailash Initiative across China, India, and Nepal

Eileen Lemke

The Kailash landscape is a transboundary high mountain region in the Himalayas between China, India and Nepal. The vital ecosystems and diversity of species of the Kailash landscape are threatened by climate change and overuse. As it is the source of major Asian rivers and the habitat of numerous endemic and endangered species, a transboundary conservation approach is essential if it is to continue providing important ecosystem services for the region. As part of the Transboundary Landscapes regional programme of the International Centre for Integrated Mountain Development (ICIMOD) with a total of seven regions in the Himalayan range, the Kailash initiative plays a pioneering role.



The Kailash Initiative used a picture series as a tool to communicate about ecosystems, biodiversity, livelihoods, value chains etc. during focus group discussions in local communities. The pictures series was put into a booklet containing expressive pictures and simple messages support thought processes, the making of connections between topics, and the understanding of rather scientific issues that nevertheless affect the everyday life of mountain communities. The moderator for these discussions are trained in using the

booklet and they also understand the dynamic nature of participants.

As a result, the initiative has helped in getting local community members to think critically about the environment and discuss their ideas, opinions and reasoning with each other. According to Eileen Lemke "environmental and climate processes are complicated, but influence the daily life of everybody in the remote areas of the Kailash Landscape". The most important elements of Green Education in the project she mentioned are "illustrations that communicate simple messages, make difficult scientific topics and processes

understandable and enable participants and trainers to tell stories. In order to cover these topics holistically, our partners provide experts from different fields and conduct the trainings in the project area. The trainer only function as facilitator who helps the communities to piece together the knowledge."

One of the most remarkable highlights in relation with the Green Education success story was the sustainable management of yarshagumba, a unique caterpillar-fungus fusion as a non-timber forest product, and the management of collection areas and campsites in Nepal in early 2016. The project conducted several picture series to raise awareness which were used by the responsible council to adopt a set of rules regarding the access to campsites, institutionalized ID cards, regular police forces and first aid equipment for higher safety. Yarshagumba collectors were encouraged to set up waste pits and basic sanitary facilities. Eileen Lemke adds "Through the participation of our partner in a governmental working group on yarshagumba, some recommendations were included into the national yarshagumba management policy in Nepal". Janita Gurung, a biodiversity and conservation management specialist at ICIMOD, describes a moment when she saw firsthand that project

beneficiaries had really understood a Green Education message. "During an allo [Himalayan nettle] value chain climate proofing workshop we organized in 2016, the related picture series enabled us to interact with participants in a simple, flexible and effective manner. Value chain climate proofing is a very theoretical approach, but by using pictures it was easy for us to discuss with community members how climate change is affecting the production of allo."



project title	Biodiversity conservation in the Kailash landscape
project objective	The population uses the value chains identified to increase their income on a sustainable basis. Participatory ecosystem management approaches are implemented through action plans at local, national and transboundary level. Regional cooperation to promote the conservation and development of the Kailash region is strengthened using established instruments.
project partners	International Centre for Integrated Mountain Development (ICIMOD)
project duration	2015-2017
website	https://www.giz.de/en/worldwide/14266.html

Climate Education in the Pacific

Daniel Gerecke

The Coping with Climate Change in the Pacific Island Region (CCCPIR) programme of GIZ and the Secretariat of the Pacific Community (SPC) aims at strengthening the capacities of Pacific member countries and regional organisations to cope with the impacts of climate change. Changing rainfall patterns, longer drought periods, increased cyclone intensity and rising sea levels are likely to affect all communities and key economic sectors such as agriculture, forestry, fisheries and tourism. Addressing climate change is therefore an urgent priority in the Pacific.

The programme has six components, one of which is climate change education. The most important elements of Green Education in the component relate to the integration of climate change adaptation in the school curricula for primary and secondary schools in Fiji and Kiribati. This includes adaptation and mitigation concepts such as encouraging afforestation, reforestation, 3R's, sustainable land management, sustainable fishing practices, use of renewable energy and reducing the use of fossil fuels, to name just a few. Another element is the development of climate change education and awareness materials such as brochures, children's storybooks, posters, videos, teacher guides, flipcharts and animated PowerPoints for teaching and learning. These materials target student teachers, in-service teachers, students at all levels from pre-school, primary to tertiary and technical vocational education and training (TVET) trainers and students alike. The materials are complemented by a training of in-service and student teachers and a training of trainers, including community and TVET trainers as well as trainers of in-service and student teachers.

The most remarkable highlights so far are the teacher trainings covering all secondary schools in Vanuatu and all primary school districts in Fiji. The trainings cover climate change education and education for sustainable development (ESD). Listening to participants, they share their experiences on how certain misconceptions have been clarified and how they learned new things through activities and appropriate pedagogics linked to the curricula.

Testimonies from teachers and trainers and from training evaluation questionnaires show that the training and materials developed have improved the latter's knowledge and competencies related to climate change adaptation and sustainable development. Student teachers shared in class how they implemented green education activities in schools during teaching interns such as gardening, composting or applying the 3R's of proper waste management.

Ms Bibiana Bureimoa from the Ministry of Education in Kiribati refers to an example from the outer island of Abaiang *"One child asked his mother one day that they better harvest rainwater for their drinking water supply because it rained heavily. And they should do it before the drought comes. The mother asked her boy in surprise, <How come you could initiate help at home with rainwater harvesting before the drought and your older siblings have not yet talked about those new concepts?> The child responded he learned about this from his teacher."*

Project	Coping with Climate Change in the Pacific Island Region (CCCPIR) – Climate Education component
Objective	strengthen capacities of education ministries, training institutions, schools and teachers to develop and deliver education on climate change adaptation and mitigation
Partners	Secretariat of the Pacific Community (SPC), Secretariat of the Pacific Regional Environmental Programme (SPREP), The University of the South Pacific (USP) and other organisations in Fiji, Kiribati, Samoa, Tonga and Vanuatu (only Fiji, Kiribati and Vanuatu since 2016)
Duration	2011 – 2020
Web	https://lrd.spc.int/spcgiz-coping-with-climate-change-in-the-pacific-island-region

Enchanted River Rehabilitated in the Philippines

Opalyn A. Agulay



On 1 Feb 2017, the Enchanted River, a popular tourist destination in Hinatuan, Surigao del Sur in the Philippines was closed temporarily to the public to give way for major rehabilitation works. The site receives as many as 1,000 visitors a day.

A rapid resource assessment (RRA) of underwater caves in the river provided a preliminary biophysical profile. The research team collected water and sediment samples for analysis, established a list of organisms found inside and outside the caves, and conducted vegetation surveys. It also provided science-based inputs to decision makers of the concerned local government units on how to improve management of these unique ecological resources in the long run.

The RRA was part of a cooperation between the Department of Environment and Natural Resources (DENR), the Protected Area Management Enhancement (PAME) project supported by GIZ, the Filipino Cave Divers (FCD) and the University of San Carlos (USC) Department of Biology in Bacolod since 2014. These partners were involved in a series of two more RRAs of underwater caves in other areas between early January and the end of March 2017.

Critical findings from the RRA of the Enchanted River triggered a dauntless decision of the municipality for temporarily closure to allow the river to heal from significant degradation of the environment in its surrounding spring. The objective was to strike a balance between economic benefits and ecological harmony to ensure that the natural beauty and the clarity and purity of the river's pristine waters will be restored.

The local government units are also revising the recreational guidelines and consider putting restrictions on some activities, including the prohibition of swimmers from swimming to the walls and from jumping-off the cliff near the cave entrance. This should raise visitors' awareness about the importance of preserving the area and keeping the surrounding natural resources intact. Major relocations of infrastructures including cottages and tables, cemented walkways and stairs are also ongoing to ensure that further erosion of limestone cliffs and rocks falling into the cave mouth will no longer take place.

PAME, through DENR, has been working closely with the Hinatuan local government in formulating and crafting the most appropriate management plan for conserving the Enchanted River. This initiative is considered a milestone for PAME in its hope to enhance the management of existing protected areas and support the establishment and effective management of new terrestrial or marine protected areas including cave systems in selected key biodiversity areas.

As the recommendations from the RRA prompted major and drastic changes to the Enchanted River's management plan, this case was a real educational eye opener for both visitors and neighboring local governments of the tourist site.



Project	Protected Area Management Enhancement
Objective	Improve the management of 60 existing protected areas and establish 100 further terrestrial and marine protected areas in selected key biodiversity areas
Partners	Department of Environment and Natural Resources, Filipino Cave Divers, University of San Carlos Department of Biology
Duration	2012-2017

Green Education and the Agenda 2030

In order to get an overall understanding of what really is Green Education, what does it have to do with the much-cited Agenda 2030 and its Sustainable Development Goals and how does Green Education and the Agenda 2030 affect GIZ projects, a questionnaire was sent to all members of the Green Education Working Group (GEWG).

Collection of the responses received are as follows reflecting on the existing expertise and experiences within the projects.

1. In a few simple words - What does Green Education mean to you?

- *To me, green education is the process of developing a society based on sustainable values for the use of natural resources.*
- *Mind the gap between knowledge, attitudes and practices. To know a fact does not necessarily mean you will adapt your behaviour accordingly.*
- *Behaviour change is more likely when it benefits an increase in the quality of life.*
- *Develop easy alternatives to environmental wrongdoings with your audience.*

Green education means clarity on how the environment works and how humans have an impact. It informs about lifestyle changes needed to achieve a sustainable life on earth through a reduced ecological footprint and appropriate technology. It develops capacities to apply sustainable concepts and practices through management competencies.

2. 'Transformation' is a key term of the Agenda 2030. What is your understanding of 'transformation' in this context?

- *Transformation in this context means values and attitudes which will lead to environmentally friendly practices. It is necessary at all level of the society so that education and communication processes are needed to support pro-active individuals and groups. A society should understand the causes and effects that determine nature, and its future. Transformative education will prepare people's heads, hearts and hands for pro-environmental action. Related education strategies are more than printing a series of posters - they have to be promoted by government and civil society initiatives at all levels.*
- *Transformation means changing our way of thinking and acting. We have to realize that natural resources are not abundant but limited, that they have to be managed sustainably. To this end, green education and communication can help from kindergarten to university, in-class and out-door while awareness raising through mass media may cover huge population.*
- *Transformation means a society's shift to an entirely new lifestyle that is low in resource use and in which happiness is not bound to material richness. This will enable us to concentrate on the development of the human race towards a more conscious species. An enabling education strategy should be based on competent teachers and facilitators, problem-oriented thinking and practice.*

"Be the change that you wish to see in the world"

M K Gandhi

3. Which elements of your project can facilitate the desired Agenda 2030 changes towards environment and climate friendly sustainable development? Which elements are missing?

ProCEED is working at all levels of society. Government and civil society are directly involved in activities that involve socio-cultural means of education and communication such as theatre and visualized storytelling. This fosters participation and aims at creating awareness based on the reality of each social group. The project offers a space for urban and rural youth to learn about the reality of environmental challenges. Yet, ProCEED still has not succeeded in putting environmental and sustainability concerns higher the national agenda.

The work of the Indo-German Biodiversity project with the forest department and the communities entails teaching as well as working on forest management plans. We can only build on existing practices, opinions, education and administrative settings which we can only shape to a small extent. It would be more effective if we could work with young people.

4. How could Green Education be better integrated in GIZ projects?

Every green project should have a Green Education component with adequate staff and financial means. Realistic indicators should be identified to monitor and evaluate the component's achievements.

As I see it, the German government, BMZ and GIZ focus more on economic and social than on environmental issues. This should be turned around as growth and resources on our planet are limited. Green or transformative education should therefore be integrated at GIZ itself. Once decision makers they accept the mentioned facts, there will be no need for green education projects any more.

GIZ should have a practice-orientated education programme for all age groups. At the same time, the organization should change its own practices towards sustainability and invest in technology and approaches for more sustainable lifestyles.

5. Would stand-alone Green Education projects stand a chance of success?

Yes, as the mission to create an environmentally healthy society is huge. Building a transformative society will not be done in a three-years timeframe. Technology alone will not be successful if society is not informed and prepared to change. This is why Green Education plays a crucial role.

As long as general environmental care is not integrated in planning, implementing, monitoring and evaluating development projects, stand-alone projects are the best chance.

I don't see a limit for Green Education but projects should be related to real problems such energy efficiency, urban development etc. We don't need business as usual with a green coating but a shift from the actual reality.