

Green Education Working Group

Sector Networks Natural Resources and Rural Development Asia (SNRD Asia)
and Transport, Environment, Energy, and Water in Asia (TUEWAS)

Environmental Education and Communication and the Agenda 2030



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GIZ in Asia - Environmental Education and Communication and the Agenda 2030

GIZ provides services in international cooperation for sustainable development, through projects and programmes in countries worldwide. The Agenda 2030, comprising the Sustainable Development Goals (SDGs), serves as a guiding framework for GIZ work in the international cooperation.

In 2015, the United Nations Summit adopted the Agenda 2030 which explicitly links economic, social and

environmental development goals for the first time and combines poverty alleviation and sustainability. Its 17 goals go far beyond the millennium development goals, which expired at the end of 2015. What is new as well is that the Agenda 2030 applies to all countries.

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, environmental education and communication (EEC) are the driving forces to facilitate social and experiential learning on environmental issues. Therefore, EEC plays a key role in the achievement of SDGs. In this context, the learning goals of

the Agenda 2030 are as ambitious as the SDGs. Loss of biodiversity, degradation of ecosystems, or climate change challenges cannot be addressed without an understanding of the complex interactions between ecological, social and economic factors.

The joint venture of two regional sector networks in Asia - TUEWAS on transport, environment, energy and water, and SNRD on natural resources and rural development - have embedded EEC in a Green Education Working Group (GEWG) established in 2013 by the then Sectoral Departments 47 (Environment and Climate Change) and 43 (Education, Health and Social Protection).

The GEWG maintains a network of EEC 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 EEC approaches.

During the joint sector network meeting in 2016, the group decided to develop a common understanding on how Green Education is related to a transformative concept such as the Agenda 2030 in the overall framework of GIZ's technical projects and programmes in Asia. This is why GEWG initiated a systematic collection and review of Green Education or EEC approaches used by GIZ projects in this region. The results from inputs shared and feedback provided to a questionnaire sent out to the working group members are presented in this magazine. Hence, the magazine not only reflects and analyses region-wide experience of GIZ in the field but also intends to generate a debate on how EEC embedded in technical cooperation programmes can contribute to transformation-oriented change processes that promote sustainable societies in the context of the Agenda 2030.

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Environmental Education and Communication as a Driver for Societal Transformation

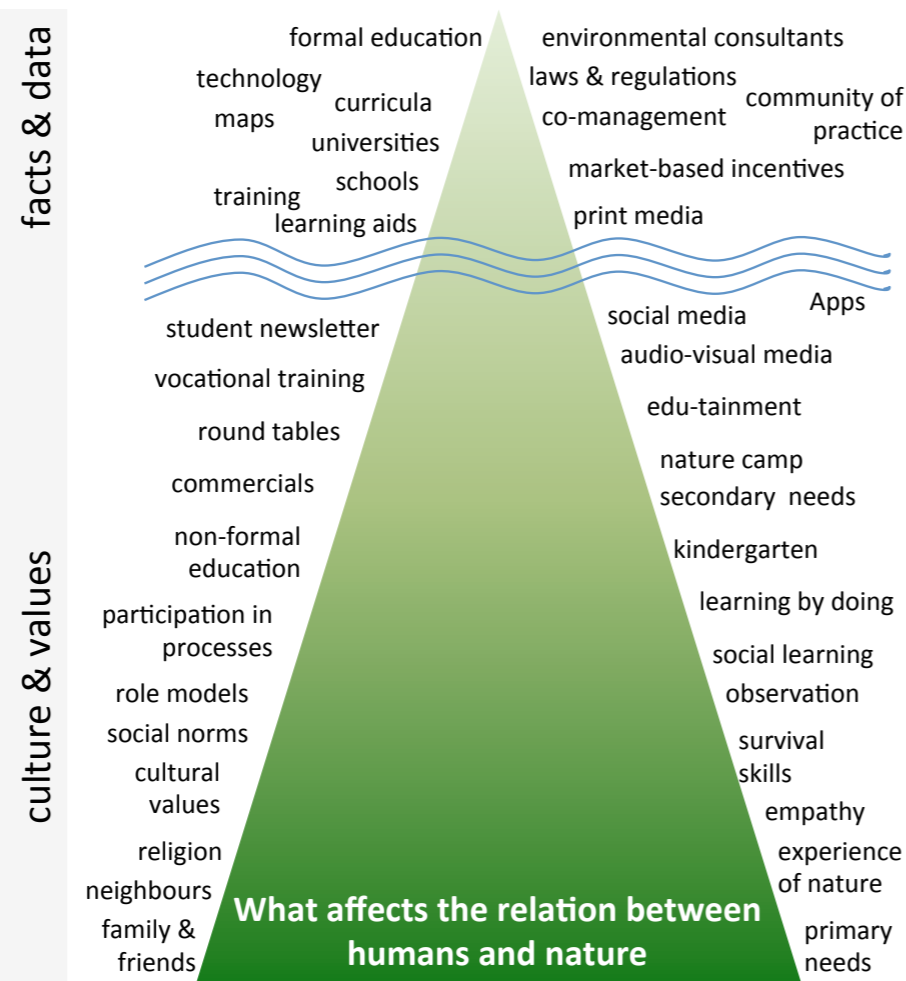
by Daniel Kehrer, Cristina Kamlage, Shailendra Dwivedi, Snigdha Kar (GIZ) and Manfred Oepen (GIZ consultant)

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, environmental communication and learning processes are driving forces for success. Criteria and options for decisions regarding sustainable practices are a result of public discourse and transparently communicated and learned alternatives.

Therefore, environmental education and communication (EEC) plays a key role in the achievement of the SDGs, particularly Goal 4 Education, Goal 11 Cities, Goal 13 Climate Change, and Goal 15 Ecosystems. In this context, the communication and learning objectives are as ambitious as the SDGs. Loss of biodiversity, degradation of ecosystems, or climate change challenges cannot be understood without assessing the complex interactions between ecological, social and economic factors.

As indicated in the adjacent chart, what affects the relation between humans and nature is not so much the cognitive, policy- and knowledge-based tools which GIZ, and others, mostly use for creating external (extrinsic) motivation in their environmental projects. This is just the tip of the iceberg. Instead, attitudes and behaviour regarding nature are primarily shaped by socio-cultural values and norms, emotions, needs and lifestyles based

“Transformative change ... involves changes in all three dimensions of the 2030 Agenda for Sustainable Development: economic, environmental and social. It also means changing norms and institutions (...) that shape the behaviour of people and organizations in the social, economic, environmental and political spheres.” United Nations Research Institute for Social Development



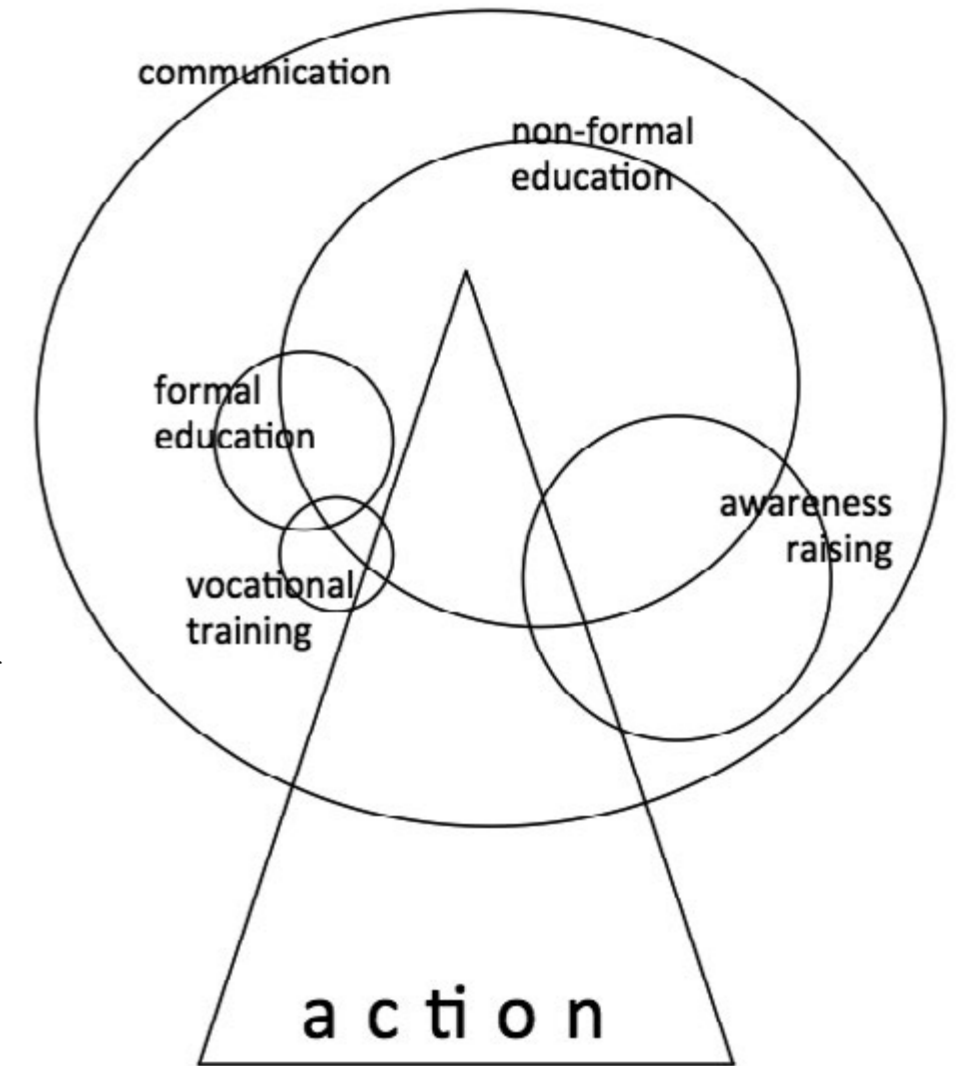
on internal (intrinsic) motivation and experiential learning.

This leads to two fundamental conclusions. EEC is a lifetime learning process shaped by a variety of institutions that share knowledge, values, skills and experiences with social groups so that they can solve environmental problems by means of individual or collective action. This definition is different from a more conservative view, which starts from a contrast between planners and target groups, knowledge and ignorance, and the protection and destruction of natural resources. The other conclusion is that environmental awareness is a combination of knowledge, attitudes and practices, abbreviated as KAP in social marketing. KAP's equivalent in education is the so called 3H approach, referring to Head-Heart-Hand. The K and the Head stand for the cognitive dimension of communication and learning, while the A and the Heart indicate the affective one, and the P and the Hand relate to learning by doing. What this means is that it is not so easy to get from 'Said' to Done' as behaviorist Konrad Lorenz once put it in a nutshell.

*Said - Done
said is not yet heard,
heard is not yet understood,
understood is not approved,
and approved is not yet done.*

“Konrad Lorenz”

In this context, EEC brings together formal and non-formal education and communication approaches to empower people to become informed citizen and take action, to take part in local, national and global governance, and to influence decision making processes through peaceful participation. GIZ was one of the first organizations worldwide that analysed environmental education after the Rio Conference in 1992. The adjoining action tree of environmental education and commu-

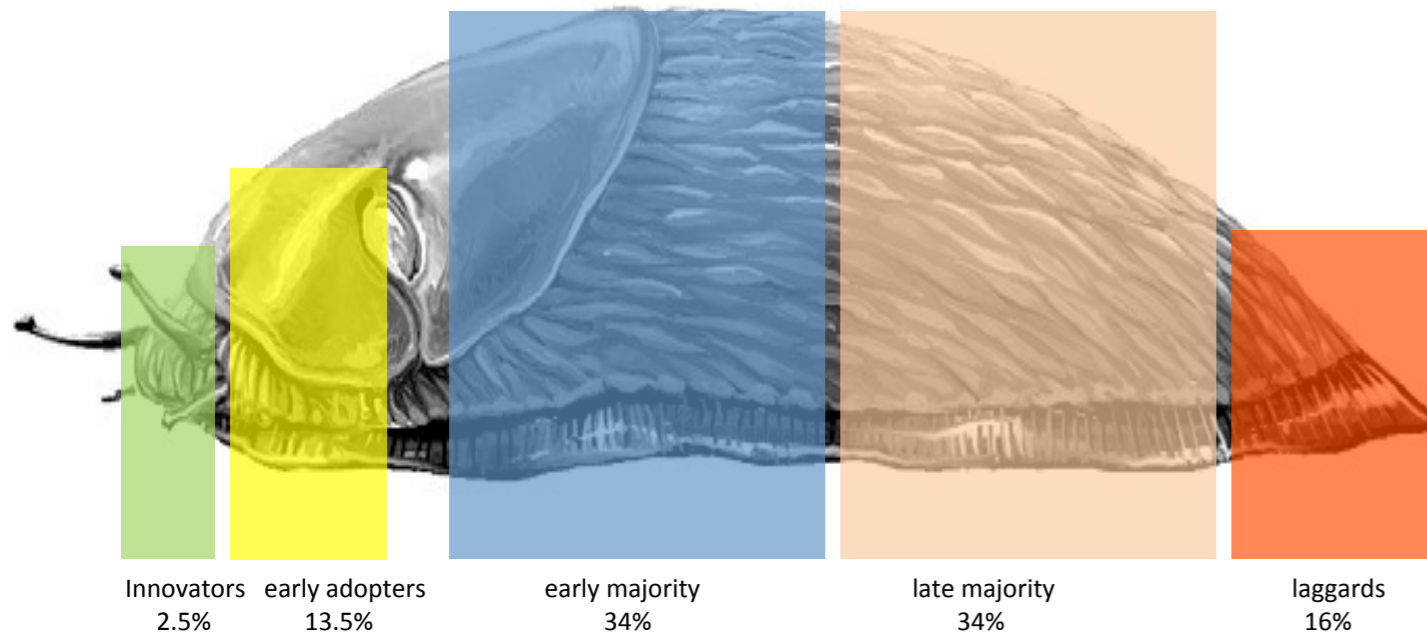


nication incorporates partly overlapping fields such as communication, non-formal education, formal education, vocational training and awareness raising. As these fields have different potentials for immediate action, they can be used for short, medium and long-term education and communication strategies.

What these EEC definitions have in common with contemporary transformation models are aspects based in the diffusion of innovation concept of Everett Rogers, one of the founders of development communication and change management. One aspect is that individuals or groups basically go through five stages of change, or transformation, processes: **Awareness** or first exposure to an innovation, **Interest** that leads to actively seeking related details, **Decision** by weighing the

advantages/disadvantages of the innovation and either adopting or rejecting it, **Implementation** by using and evaluating the innovation, **Confirmation** by finalizing the decision to continue using the innovation. The decision making stage is the most crucial one as incentives and benefits come into play. People asking “What is in for me?” is part of human nature, whether you change for a new brand of coffee or a new environmentally friendly behaviour. Therefore, normative EEC appeals telling people “Do this! Don’t do that!” tend to neglect this fundamental principle.

In any society, this change process is driven by a minority, **innovators** and **early adopters**, who are no more than 2.5% and 13.5% of the population in question. This is why they are often called change agents, and they become natural allies in adopting pro-environment practices, too. These individuals



or groups typically have more access to information, education and media. They are the trend setters - often called influencers these days - for the **early and late majority** (both 34%), and the **laggards** (16%) in society. When successive groups of citizens adopt the new practices - in our case related to sustainable development - a society will eventually be transformed. This often takes time - in Germany, it took 15 years from the first Green Bin pilots regarding bio-degradable waste until municipalities nation-wide changed over to this innovation.

In this light, the current GIZ portfolio related to green education and communication has serious limitations because many projects are supply-driven by GIZ and/or partners: "Here I have a solution. Do you have a problem?" Few measures cross the awareness and interest stage and facilitate systemic participation of target groups leading to decisions, implementation and confirmation in a transformation process.

Especially when target audiences lack environmental awareness or have less formal education, GIZ is short of sys-

tematic approaches. The current TUE-WAS/SNRD portfolio in Asia covers 26 projects in 15 countries, eight of which have indicators related to EEC. Only one of them is formally using an EEC approach.

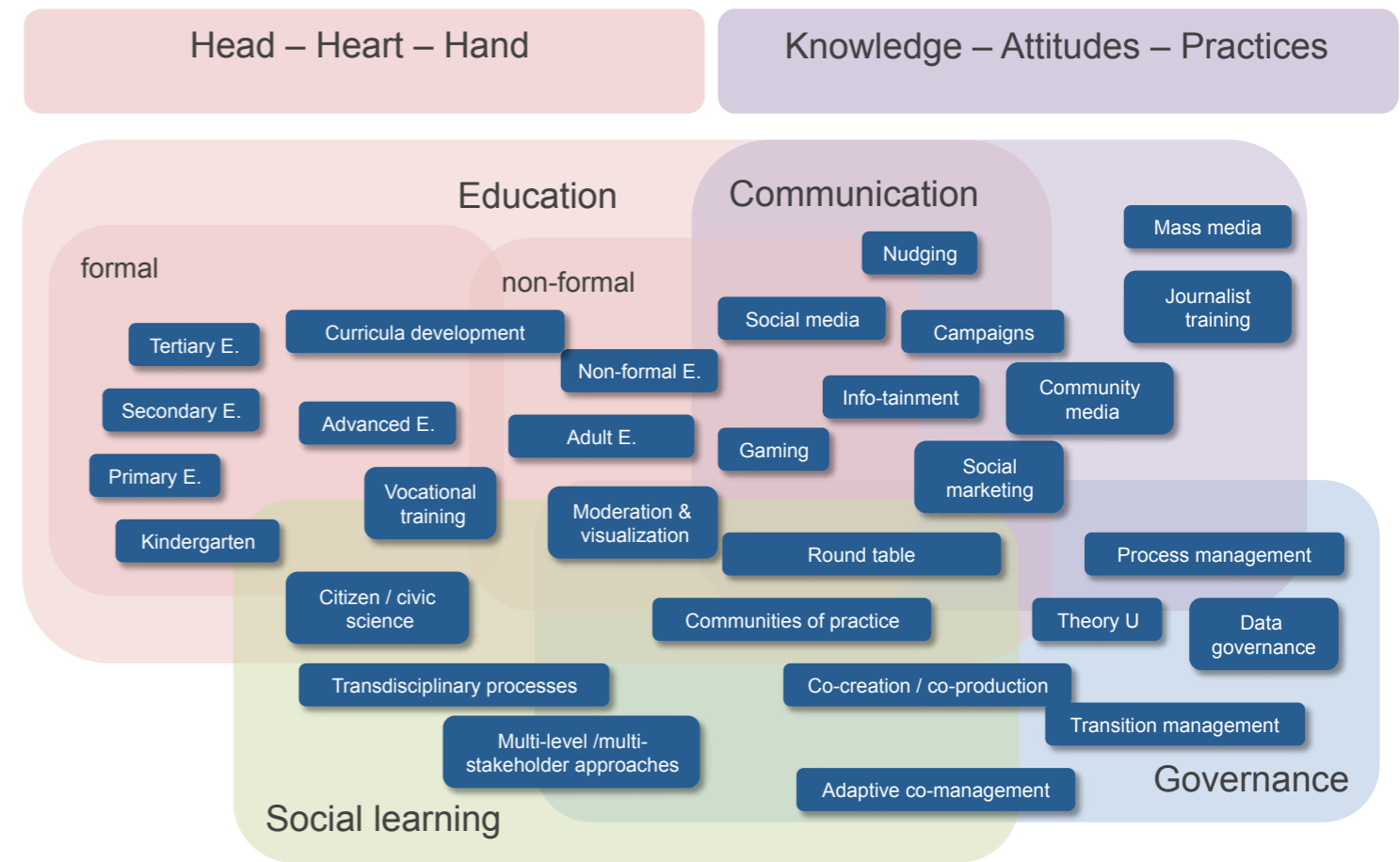
Global trends show a different direction. Educational systems established during the industrialization period of the 19th century, focusing on standardized knowledge and extrinsically motivated learning are challenged by new patterns and platforms of learning supported by new technologies and exchange of experiences for all age groups and social strata.

Therefore, the future EEC approach of GIZ supporting the Agenda 2030 should promote transformation processes towards environmentally safe and climate-resilient societies through social learning and negotiation discourse. EEC for societal transformation should be based on a new quality of public and private human capacity development concerning contents, methods, instruments, creativity and communication. This calls for a strategic design of EEC in which cogni-

tive and affective forms of learning as well as interactive media, conventional and digital, complement each other in a holistic way. Thus, privileged and non-privileged members of society alike could shape social transformation processes towards a sustainable future.

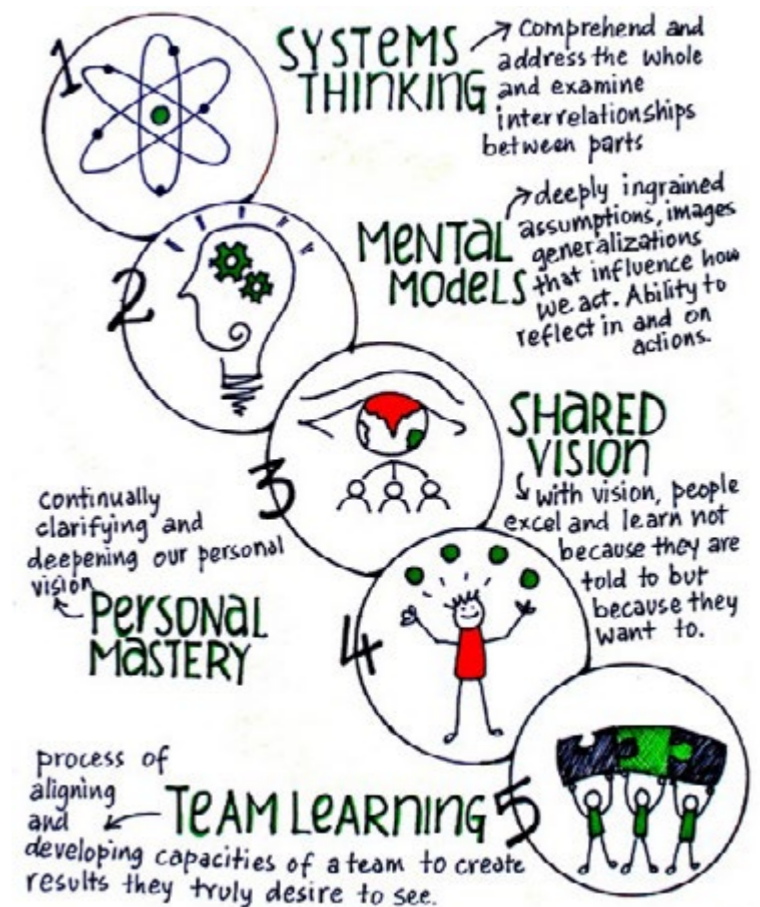
Some case studies presented in this magazine have tried this complementarity by means of edu- or infotainment, combining the sharing of hard facts with social learning and entertainment in games, exercises, road shows, theatre plays or the performing arts. In the Lao and Indonesian case, this has proven successful in the context of a step-by-step EEC strategy in which the target groups co-determined problems, goals, media and messages.

The future EEC portfolio should be an integral part of transformative projects concerning economic development, consumption, mobility, etc. instead of a belated add-on to existing environmental protection projects. This needs a type of EEC which creates an enabling environment and promotes sustainability among all the stakeholders. It has to be kept in mind that EEC



alone will only be successful if combined with a proper policy framework, law enforcement, and incentive-based instruments.

GIZ claims to be a learning organization. In this context, Peter Senge and his related five disciplines to the left come to mind: "You can only understand the system of rainstorm by contemplating the whole, not any part of the pattern." Paraphrasing Senge, GIZ is also a system "bound by invisible fabrics of interrelated action, which often take years to fully play out their effects on each other. Since we are part of that lacework ourselves, it's doubly hard to see the whole pattern of change. Instead we tend to focus on anapshots of isolated parts of the system, and wonder why our deepest problems never seem to get resolved."



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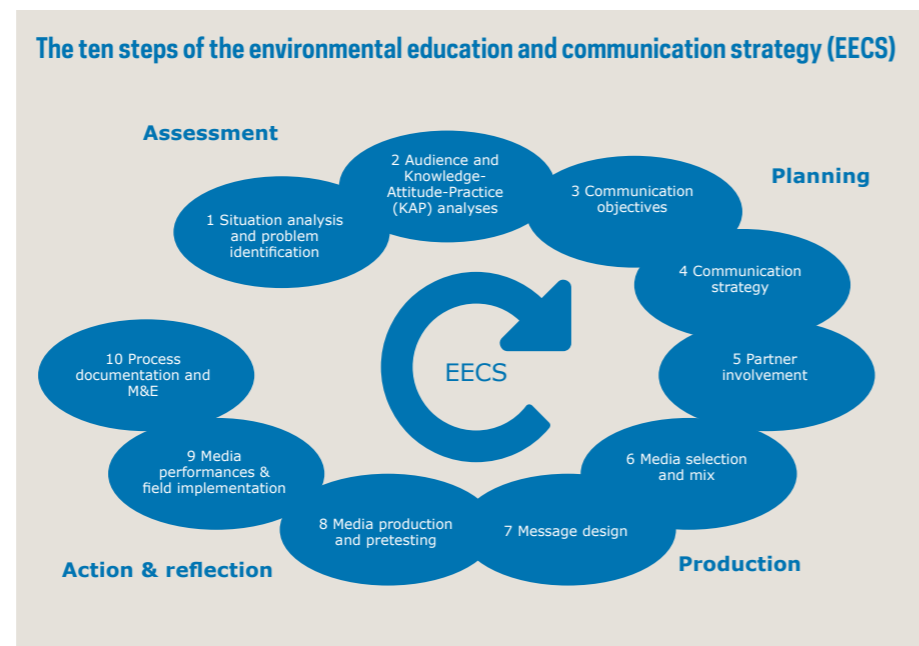
Environmental Education and Communication in Laos

Manfred Oepen, GIZ consultant and Cristina Georgii, GIZ Laos

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 live-

lihood depends on forest ecosystems and smallholder agriculture, which are threatened by unsustainable hunting and timber exploitation, hydro-power development, mining and monoculture farming.



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 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-minutes environmental magazine format for a weekly national radio (LNR) and TV (LNTV) programme called Our Environment. Ever since 2015, LNR and LNTV followed this up with series of three 15-minutes 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-



“Progress takes roots when the environment becomes a regular part of media programmes, at least twice a month. Just a few features or spots here and there will not change environmental attitudes and behaviour.” Manfred Oepen

how for video clips with easy-to-understand environmental messages, which were to be broadcast by LNTV.

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 produc-

tions. 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, provincial and district capitals 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 behaviour 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,



“Participation, innovation, and integration are the most important elements of ProCEED's approach: Bring out the best in a mix of people, stimulate curiosity and hidden talents and use fresh and fun methods!” Cristina Georgii

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 theatre 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 colourful community gathering in the evening. Moreover, the ProCEED teams have also run environmental education programmes 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 programmes 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 10-step EEC strategy design, including the KAP survey approach, were taken over by regional biodiversity-related GIZ programmes in Central Asia (EbA) and the South Caucasus (IBiS) since 2016.

Project Facts & Figures

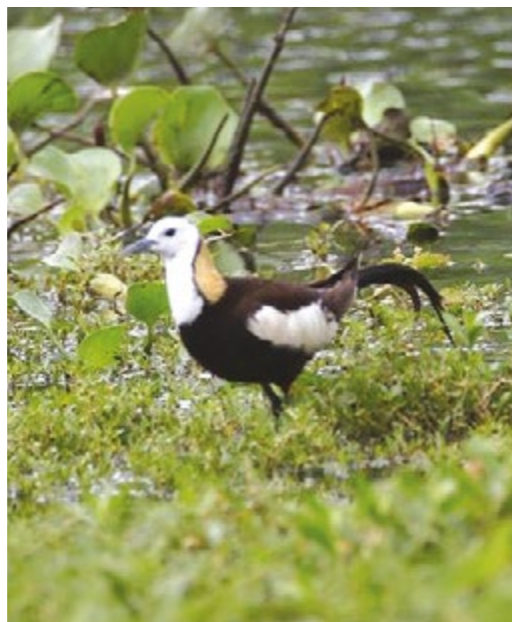
project title	Promotion of Climate-related Environmental Education
project objective	improve the knowledge, attitudes and practices related to the environment, biodiversity and climate change through communication and education in selected target areas in Laos
project partners	Ministry of Natural Resources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

Biodiversity Education and Outreach in India

by Laxmikant Deshpande, GIZ consultant

The Sustainable Management of Coastal and Marine Protected Areas (CMPAs) project in India was undertaken by GIZ in association with the Ministry of Environment, Forests and Climate Change, Government of India. One of its pilot sites was jointly implemented with 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



Biodiversity education and outreach activities created biodiversity libraries in local schools, celebrated environmental days with the schools and the villagers, and established permanent exhibits.

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 (district) and Anjarle in Dapoli taluka (sub-district) of Ratnagiri taluka. 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



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 1 (district council) 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 (local language of the district), 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, home stay 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 Facts & Figures

project title	Sustainable Management of Coastal and Marine Protected Areas
project objective	improve the conservation and sustainable use of biological diversity in the pilot protected areas with due consideration to the livelihoods of the local population
project partners	Ministry of Environment, Forest and Climate Change
project duration	2012 - 2017
website	www.giz.de/en/worldwide/24964.html

Children Painting their Green Ideas in India

by Snigdha Kar, GIZ India

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, Government of 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

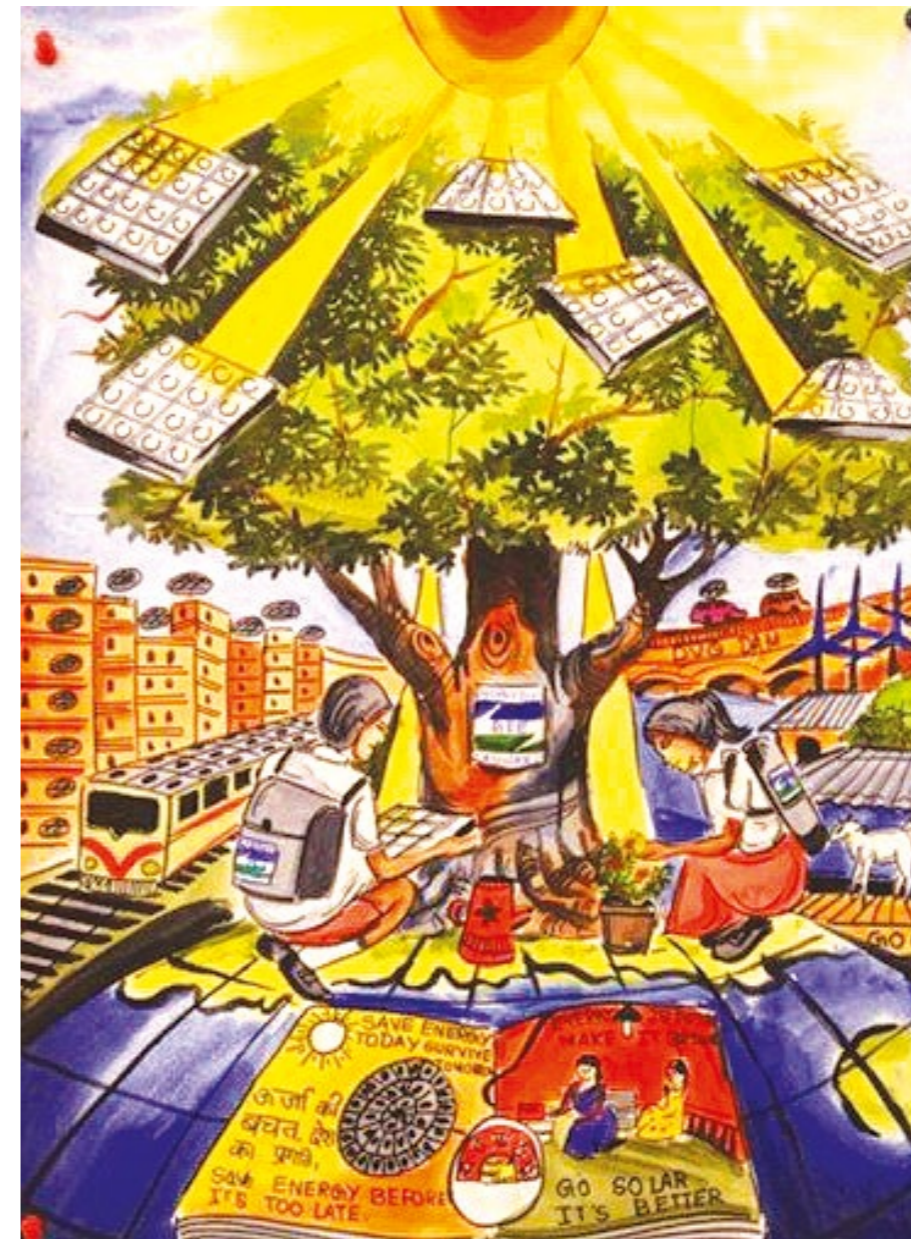
their interest in energy conservation activities and their concern about energy crises and climate change. The children effectively conveyed inspiring ideas in their impressive paintings



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 win-



ners 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 Facts & Figures

project title	Grid integration of renewable energy and demand side energy efficiency
project objective	improve market mechanisms and conditions for renewable energy and energy efficiency
project partners	Ministry of New and Renewable Energy, Ministry of Power
project duration	2015 – 2020

Environmental Awareness Raising in India

by Snigdha Kar, GIZ India

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 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 levelled, 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.



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.

Project Facts & Figures

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, Government of India
project duration	2015 - 2019

Indo-German Environment Partnership Programme

In 2013, the Indo-German Environment Partnership 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 information technology (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.



develoPPP.de programme in India

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

Boost for development of IT parks

Emphasis on retrofitting that entails addition of new features

Special Correspondent

HYDERABAD: IT Minister K.T. Rama Rao on Wednesday launched strategies for 'Retrofitting of IT Parks' in the Cyberabad Zone and promised Rs.5 lakh assistance to the IT firms that adopt the prescribed practices.

The programme has been developed by Telangana State Industrial Infrastructure Corporation (TSIIC) in technical collaboration with Deutsche Gesellschaft für internationale Zusammenarbeit (GIZ) for sustainable development of industrial parks. Basically, the concept entails addition of new technology or features to existing systems.

The five point strategy for IT Parks in Cyberabad prescribes retrofitting green building concepts to existing offices and creating barrier-free workspaces, management of solid waste and e-waste, promotion of cycle to

ECO-FRIENDLY AGENDA THE FIVE POINT STRATEGY FOR INFORMATION TECHNOLOGY PARKS PRESCRIBES



retrofitting green building concepts to existing offices

management of solid waste and e-waste

promotion of cycle to work concept

developing green cover in industrial parks

storm water management and rainwater harvesting

Five IT firms including Tech Mahindra, iLabs, Phoenix and Wave Rock signed a declaration of intent on adopting retrofitting strategies

IT Minister says government will support such companies with an assistance of Rs.5 lakh for appointment of consultants and experts on these subjects

We in Hyderabad want to go green that other metro cities go green with envy.

K.T. RAMA RAO, IT MINISTER

parcs, storm water management and rainwater harvesting.

Today at the launch programme, five IT firms including Tech Mahindra, iLabs, Phoenix and Wave Rock signed a declaration of intent on adopting the retrofitting strategies. Following this, the

port such companies with an assistance of Rs.5 lakh for appointment of consultants and experts on these subjects.

There are 124 IT companies in Cyberabad and Mr. Rao hoped all others would come forward to join the initiative and provide barrier-free workspaces for the phys-

manage solid waste and e-waste in an appropriate manner.

Speaking on promoting green cover for the city and adoption of environment-friendly concepts, he quipped, "We in Hyderabad want to go green that other metro cities go green with envy."

The Minister had earlier inaugurated a bike station on the Tech Mahindra premises with a facility to park 300 bicycles and sought measures to increase the number to 2,000. He also made a mention of a proposal to develop cycling tracks between the Outer Ring Road (ORR) and its adjoining service road on which cycling events could be organised.

Jayesh Ranjan, vice-chairman and managing director, Telangana State Industrial Infrastructure Corporation Harpreet Singh, IT secretary C.V. Anand, Cyberabad Police Commissioner and A. Gond-

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

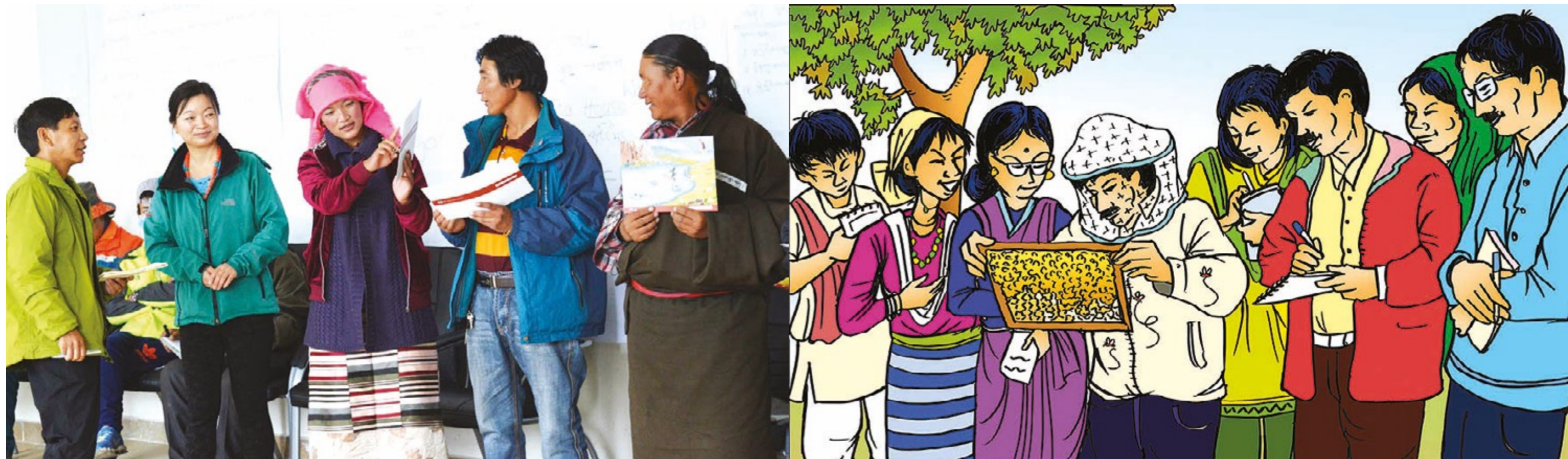
for environmentally friendly collection and dismantling of e-waste. Increased awareness among the public resulted in increased collection of e-waste by the women's group. The programme had positive impacts on the health and income of the women.

Project Facts & Figures

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, Forest and Climate Change, Government of India
project duration	2012-2015

Project Facts & Figures

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, enhance the consumption behaviour of students and youth and improve 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

by Eileen Lemke, GIZ

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.”

“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, the Himalayan nettle.”

Janita Gurung, ICIMOD biodiversity specialist

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 Facts & Figures

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
project duration	2015-2017
web	www.giz.de/en/worldwide/14266.html



Climate Education in the Pacific

by Daniel Gerecke, GIZ Pacific Island Region

The Coping with Climate Change in the Pacific Island Region (CCCPiR) programme of GIZ and the Pacific Community is striving to enhance climate resilience and climate change mitigation in Pacific island states. 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 and, even more importantly, the adaptation to climate change into curricula. This was applied at primary and secondary schools, technical and vocational education and training (TVET) institutions, and teacher training institutes in Fiji, Kiribati and Vanuatu. Until 2015, Samoa and Tonga were covered as well. Relevant topics incorporated adaptation and mitigation concepts such as encouraging afforestation, reforestation, recycling, and sustainable land management. Also agricultural diversification, sustainable fishing practices, use of renewable energy and reducing the use of fossil fuels were integrated in the curricula. Another important element is the development of climate change education and awareness materials such as bro-

chures, children's storybooks, posters, videos, teacher guides, flipcharts and animated PowerPoint presentations for teaching and learning. These materials use local and/or regional examples and are often translated into vernacular languages, so that learners are connected to their physical environments and living experiences. The materials introduce new teaching methodologies that focus on child-centred and activity-oriented learning. They target student teachers, in-service teachers, students at all levels from pre-school, primary to tertiary and technical vocational education, and TVET trainers and students alike. The materials are complemented by trainings of trainers, including community and TVET trainers as well as trainers of in-service and student



Testimonies from teachers and trainers and from training evaluation questionnaires show that the trainings delivered and the materials developed have significantly improved the trainees' knowledge and competencies related to climate change adaptation and sustainable development.

teachers. These trainings of trainers are followed by trainings of in-service and student teachers.

One of the most remarkable highlights so far is the first-ever fully accredited certificate level 1 TVET course on climate change and disaster risk reduction in the region, run by the Vanuatu Institute of Technology. The course comprises eleven units, each with detailed facilitator guides, learner guides and learner workbooks in English and French.

Another highlight were the teacher trainings for all secondary schools in Vanuatu and all primary schools in Fiji. These trainings covered climate change education and education for sustainable development (ESD). Testimonies from teachers and trainers and from training evaluation questionnaires show that the trainings delivered and the materials developed have significantly improved the trainees' knowledge and competencies related

to climate change adaptation and sustainable development. The trainings clarified many misconceptions and confirmed how much trainees appreciated and learned about appropriate pedagogic and activities linked to the curricula. Student teachers shared how they implemented green education activities at school, e.g. gardening, composting or applying the 3R's of proper waste management - reduce, reuse, recycle - during their in-class teaching lessons.

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 'I learned about this at school!'



Project Facts & Figures

project title	Coping with Climate Change in the Pacific Island Region – Climate Education component
project objective	education ministries and training institutions, including schools, contribute to increased awareness and knowledge about climate change adaptation and climate change mitigation in Fiji, Kiribati and Vanuatu
project partners	Pacific Community, Secretariat of the Pacific Regional Environmental Programme, The University of the South Pacific and other organisations in Fiji, Kiribati, Samoa, Tonga and Vanuatu (Fiji, Kiribati and Vanuatu since 2016)
project duration	2011 – 2020
web	www.giz.de/en/worldwide/14200.html



Climate Change Education and Awareness Campaign in Indonesia

by Ursula Busert (GIZ Indonesia) and Manfred Oepen (GIZ Consultant)

Climate change cannot be curbed through legislation alone. A change in mindset has to be initiated throughout the population, notably the younger generation. In 2013-2017, the GIZ Policy Advice for Environment and Climate Change Programme (PAKLIM) supported the Ministry of Education and Culture and the Ministry of Environment and Forestry through its Work Area 3 on Climate Change Education and Awareness (CCEA). The project aimed at raising climate change literacy among Indonesian youth while turning Green Schools into climate and environmentally friendly places and pro-actively involving urban communities.

Eco-mapping was introduced at 56 schools, and teachers have been trained in methods to interactive-

ly integrate the defined topics into school curricula. A total of 19 schools completed one entire process, and five of these schools have supported 19 other schools with the same process. **Eco-mapping** supports active learning by doing, using the school compound as a pilot area for students and teachers to apply participatory and smart tools that help understand and act upon environmental problems. Students applied project-style modules that dealt with energy efficiency, recycling and composting and renewable energies. Involving local authorities and supporting dialogue between schools and local communities was equally important.

The CCEA outreach beyond schools was achieved by a campaign between April and November 2016 which

covered web-based and social media, broadcasting and print media as well as interactive games, exercises and demonstrations in non-formal communication and education activities. The cities of Surakarta, Malang and Probolinggo integrated awareness raising on climate issues into public events. The 10-step communication strategy outlined in the Lao case study served (see page 8) as a backbone for the CCEA campaign. Participants from national and local governments, schools and NGOs in the mentioned cities joined a training workshop in order to plan the topics, target groups and media mix for the campaign which was later organized and implemented by local teams.

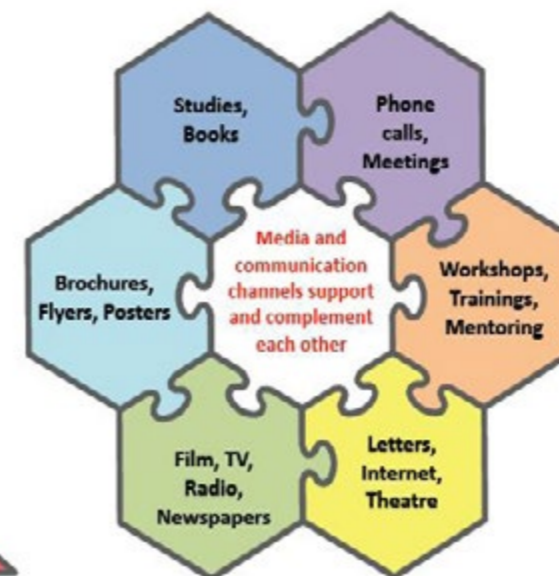
Malang's Mayor pointed to eco-mapping in schools as one of the efforts for becoming a sustainable city. Ever since

Dissemination of information

one-way



- Basic knowledge and information
- Broad outreach
- Attraction and persuasion
- Regular programming



Interactive communication

two-way



- Motivation and mobilisation
- Action orientation
- Easy access and local context
- Acceptance and trust



2014, Green School Festivals were held as socialization efforts from school to school, from schools to students' homes and from schools to communities. Success stories in composting, recycling, and energy saving were showcased when students engaged visitors through theatre plays, songs, a school garden and an information kiosk. Together with local authorities they did not only cooperate with local mass media but also developed their own messages on waste, energy and water issues and get them go viral in social and online media which resulted in a plethora of **Internet and social media hits** so that eco-mapping became the talk of the town for a while.

In Probolinggo, the extension of eco-mapping initiatives started from a link between three Green Schools and an environmental vehicle provided by the local government. The objective was to establish a recreational environmental education centre, and to reach out to 40 additional schools by means of the vehicle. The mini bus is equipped with a mobile library, banners, leaflets and video films, and

uses music, games, competitions and demonstrations as attractive infotainment methods. In addition, the Green Schools have taken the lead in popular 3-day Climate Festivals since 2013. In 2016, schools contributed demonstrations of how recycling can be implemented at the school waste bank stations, and presented handicraft items made from recycled materials.

In Surakarta, Green School students operated five thematic booths along the route of the annual Car Free

Day. School activities related to climate change were introduced with eco-mapping as a tool to measure and solve problems regarding plastic waste, energy saving and urban transport as an example of how citizens can contribute to sustainable development. A quiz-based prize and reward system motivated visitors to stop at the booths.

Project Facts & Figures

project title	Policy advice for environment and climate change, Work Area3 - Climate Change Education and Awareness
project objective	roll-out of best practices achieved by Green Schools and related community groups, and raise climate change awareness beyond the schools in other sectors of society
project partners	Ministry of Education and Culture, Ministry of Environment and Forestry, local governments of Yogyakarta, Surakarta, Malang and Probolinggo
project duration	2013-2017
web	www.giz.de/en/worldwide/16736.html

Green Education and the Agenda 2030

In November 2017, the Green Education Working Group (GEWG) coordinators asked all the group members to answer six simple questions related to 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 in Asia in terms of success stories, lessons learned and challenges?

The questions and the edited feedback from GEWG members as outlined below reflect the existing expertise and experiences in the TUEWAS and SNRD network.

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

Green education is the process of developing a society based on sustainable values for the use of natural resources.

Green education should be guided by a number of principles such as

- *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 together 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 though 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.

"Be the change that you wish to see in the world" (Ghandi)



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 though 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.



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 (in Laos, see pages 8-11) 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 (see pages 12-13) 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.

The German government, BMZ and GIZ (currently) 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.

There is no limit to Green Education but projects should be related to real problems such energy efficiency, urban development, etc. We do not need business as usual with a green coating but a shift from the actual reality.



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