ANESCO- Alumni Network for Ecology, Sustainability and Conservation

Result Report

4th International ANESCo Alumni Project Seminar

on

„Education for Sustainable Development - Sharing and Linking International Best Practice Approaches“

1 – 11 May 2019, Greifswald & Vilm

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Preface and Overview

Due to our experiences and education we all are forming our individual understanding of the world. The urgent need for solving the recent global environmental crisis is setting all institutions of education under increasing pressure. Everywhere on the globe societies are expecting schools and universities to educate the young generation for saving our future by guiding a transformation process targeting sustainability. The concept to making this possible has a name: “ESD” or “Education for Sustainable Development”.

This result report is documenting the search, discussion and evaluation of several ESD approaches and tools by the expert network “ANESCo” (Alumni Network for Ecology, Sustainability and Conservation) as well as the attempt to develop own ideas for concepts and projects during its 4th International Alumni Project Seminar on „Education for Sustainable Development - Sharing and Linking International Best Practice Approaches“ which took place between 1st and 11th of May 2019 in Greifswald and on the nearby Islands of Rügen & Vilm (NE-Germany).

The report contains an overview on the theoretical background of ESD, sketches an ANESCo contribution (Chapter 1), focusses ESD in schools by describing several case studies (Chapter 2), describes didactic tools and activities (Chapter 3), takes a look into ESD, benefit-sharing and potentials as of tourism in connected to Protected Areas (Chapter 4, 5 and 6), documents the insights of the participants and invited experts of the project seminar (Chapter 7 and 8) as well as two great encouraging after-seminar stories of unexpected impact (chapter 9).

The Alumni Project Seminar was organized by Greifswald University and STUBE (Studierendenbegleitprogramm für internationalen Studierende in Berlin und Brandenburg) and generously funded by the German Academic Exchange Service (DAAD Alumniprogramm). We hereby express our gratitude for the constant support of the DAAD to develop our Alumni network. Without this help, ANESCo would not exist!

The ANESCo expert group was founded in 2013 and consists today of more than hundred activists from all continents (except Australia) representing a huge variety of professions and sociocultural backgrounds. However, all ANESCo members have also a lot in common: They are strongly motivated – “self-driven” as well as “team-driven” - to make our societies sustainable and they believe, that by integrating their diverse perspectives, the ANESCo experts can come up with new insights and can contribute to design and apply innovative ways for a respectful, careful and joyful way of living sustainably on planet earth.

We hope that you will enjoy reading and might find inspiration to apply ESD in your own teaching.

On behalf of the project seminar group

Dr. Tiemo Timmermann (University of Greifswald)

Esteban Guevara (STUBE – Studierendenbegleitprogramm für Internationale Studierende in Berlin und Brandenburg)

1. The Concept of Education for Sustainable Development ESD: A general overview from the ANESCo perspective

Esteban Chávez Guevara, Fabio Rojas, Tiemo Timmermann, Saheed Matemilola

Objective of Education for Sustainable Development

Education for Sustainable Development (ESD) promotes growth and progress that has into consideration it's relation to the environment. Enabling the formation and the transmission of knowledge that qualifies and empower individuals to consider the impacts of their actions and society.

Achieving sustainability is not as easy as it is often seen. This is because it is not easily achievable without transforming the common individual thinks and acts. The individual must become the sustainability change-makers. For this to happen, the individual must therefore, first acquire knowledge, skill, values and attributes that will improve their capacity to be able to act sustainably in their day-to-day endeavors. Thus, the inevitability of education as a mechanism for achieving sustainability and its fundamental role in finding an enduring solution to the numerous global challenges cannot be questioned. This understanding is enormously reflected internationally in the target 4.7 of the Sustainable Development Goals which established Education for Sustainable Development as key target. Thus, ESD has is now gaining wide popularity as an important change-agent for achieving sustainable life-style enabling individuals to envision the common future of the world in the day-to-day activities.

SDG Target 4.7

"By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development. "

However, it must be stated that, it is not every education that promotes sustainable development. For example, education whose goal is solely to empower individuals with technological prowess or economic sufficiency cannot be considered to be promoting sustainability. Thus, beyond achieving target 4.7, ESD is a cross-cutting concept that builds the capacity of individuals to take informed decisions and act responsibly taking into account the present benefits and potential economic viability, environmental integrity and social justice for the future generations. ESD therefore, must be considered as an element of quality education and be enshrined in the concept of lifelong learning (from elementary to tertiary and informal to formal education) such that sustainability is not seen as a profession, but as an integral part of every profession.

Furthermore, ESD is a comprehensive and transformational concept which does not only address the learning contents and outcomes but also the learning methods, structures and environment. Thus, beyond infusing knowledge aspects such as climate change, biodiversity, production patterns, intergenerational justice or resource depletion in the learning curriculum; it also facilitates a two-way participatory, learner-based teaching and learning environment which creates a shift from the traditional teaching to learning pedagogy. This way, individuals are empowered with competencies that enable them to reflect on the implications of the actions. Competencies in this sense refer to those attributes which a citizen of sustainability need to develop to be able to act and organize himself sustainably in complex situations. These key competencies are transversal and are required by learners across all levels, ages, disciplines and worldwide.

ESD generally focuses on the development and strengthening of individual competencies, enabling the individual to contribute to and participate in sustainable development processes of various kinds and dimensions. After more than two decades of discussions on this issue, it seems according to Hoffmann & Siege (2018)[i] that an international consensus could be reached with the following set of eight competencies published by UNESCO in 2017[ii]:

Key competencies for sustainability

Systems thinking competency: the abilities to recognize and understand relationships; to analyse complex systems; to think of how systems are embedded within different domains and different scales; and to deal with uncertainty.

Anticipatory competency: the abilities to understand and evaluate multiple futures – possible, probable and desirable; to create one's own visions for the future; to apply the precautionary principle; to assess the consequences of actions; and to deal with risks and changes.

Normative competency: the abilities to understand and reflect on the norms and values that underlie one's actions; and to negotiate sustainability values, principles, goals, and targets, in a context of conflicts of interests and trade-offs, uncertain knowledge and contradictions.

Strategic competency: the abilities to collectively develop and implement innovative actions that further sustainability at the local level and further afield.

Collaboration competency: the abilities to learn from others; to understand and respect the needs, perspectives and actions of others (empathy); to understand, relate to and be sensitive to others (empathic leadership); to deal with conflicts in a group; and to facilitate collaborative and participatory problem solving.

Critical thinking competency: the ability to question norms, practices and opinions; to reflect on own one's values, perceptions and actions; and to take a position in the sustainability discourse.

Self-awareness competency: the ability to reflect on one's own role in the local community and (global) society; to continually evaluate and further motivate one's actions; and to deal with one's feelings and desires.

Integrated problem-solving competency: the overarching ability to apply different problem-solving frameworks to complex sustainability

ESD is not a specific action but more like a framework to empower individuals to make wiser decisions and related activities. By developing the previous competencies Education for Sustainable Development enables persons to:

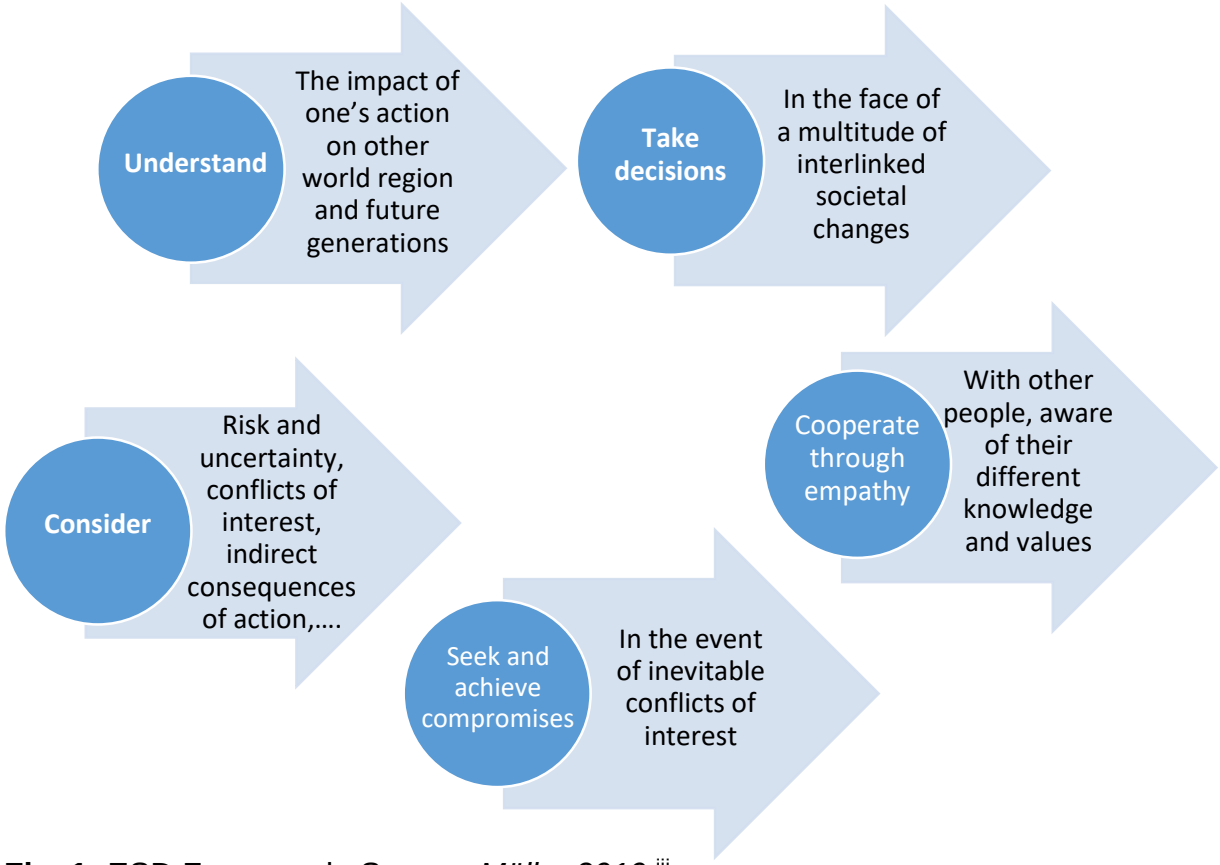

Fig. 1: ESD Framework, Source: *Möller 2019* [iii]

Core Elements of ESD

ESD has been developing as a concept in the previous decades, and has reach the consideration of international organisms. The Educational, Scientific and Cultural organization of the United Nations **UNESCO**, has the task of building a participatory guideline with the aim of consolidating a common base of understanding that can help to understand, promote and implement ESD. In the same way as part of the mandate of UNESCO they have developed an action program.

Global Action Program GAP on Education for Sustainable Development

The overarching goal of the GAP is "to generate and scale up action in all levels and areas of education and learning to accelerate progress towards sustainable development".

The GAP will deploy a two-fold approach to multiply and to scale up ESD action:

1. integrating sustainable development into education and

2. integrating education into sustainable development. Corresponding to this overall approach, the program has two objectives.

Objective 1 "to reorient education and learning so that everyone has the opportunity to acquire the knowledge, skills, values and attitudes that empower them to contribute to sustainable development";

Objective 2 "to strengthen education and learning in all agendas, programs and activities that promote sustainable development".

Knowledge

Due to increasing research activities and growing practical experiences in all kind of aspects of SD the amount of knowledge is huge and continuously growing. However, the targeted selection and access to required knowledge in order to answer specific questions may still be a challenge. The following list provides an overview on important fields of knowledge. Our selection reflects mainly the examples given by Möller (2019) extended by a few topics.

Climate change: Unprecedent climatic variations around the world have been acknowledged as one of the major challenges of our time, with the shift and movement of critical factors as seasons, temperatures and gradients, among others.

Climate literacy: How does our daily consume of materials and food, our mobility behavior and our energy consumption influence global warming? What are the options to reduce the individual and global carbon footprint and how can they be realized? To answer these questions all of us have to learn and turn from - more or less - illiterates to climate-connoisseurs.

Biodiversity: Biodiversity plays an important role for a sustainable and livable future. Loss of biodiversity may severely change the stability and dynamics of ecosystems and reduce their resilience transformation capacities. Thus the preservation and restoration of biodiversity is a key strategy to overcome or mitigate negative effects of global change.

Ecosystem dynamics: Nowadays ecosystem processes are induced and controlled not only by natural developments but increasingly by anthropogenic factors. Thus the understanding and interpretation of current and future ecosystem changes require broad analytical approaches, holistic concepts and complex models.

Production patterns: The great success of industrial production has also brought many impacts that were not taken into account, making this patters climate, and ecologically smart is a fundamental to reach a balance in quality of life and the capacity that ecosystems have to sustain us.

Disaster prevention: The lack of knowledge and planning about the natural forces that surround human habitats, and the inadequate expansion of settlements are some of the causes of disasters that can be prevented in a world with more access to technology.

Nutrition: Nutrition and food security currently faces significant threats such as climate change, and soils and water sources are depleted. Rural-To-Urban and severe malnutrition affect large segments of the world population. Hence, major global shifts, such as increases in agriculture`s productivity and sustainable production systems, are crucial to mitigate hunger and its derived issues worldwide.

Health: According to the **World Health Organization**, around 9 million of persons are dying annually because of air pollution related illnesses. Many solutions are at hand to prevent and change this situation.

Intergenerational justice: Refers to respect for the right and duties of the past and future generations. It concerns giving consideration for social justice, economic viability and environment integrity of our actions and decision especially as regards the future generations. Here, the future generation is seen as holding a legitimate right against the present generation who in turn also have similar duty to the succeeding generations.

Globalization: Defines the development of global economic integration, culture, and political structures across the globe. There are, of course, shortcomings to this process such as unregulated trade and financial markets, which abuses poor social standards and threaten the stability of democratic systems and societies globally. Therefore, a profound understanding is essential to

Gender equality: This refers to the situation where men and women enjoy the same social and economic rights and privileges across the different facet of the society as well as participation in decision making. It also includes equally valuing the behaviours, aspirations and need of both men and women.

Human rights: Human rights increasingly are recognized as being key elements to achieve sustainable development in modern society. That is why principles and standards underlying human rights protection are currently included in an ambitious framework for global development.

Mobility and transport: Transportation generally refers to the process of changing the position of a concrete object from one place to another, mobility is the property of the object or person being moved. mobility is an important need that must be managed in a way that will not compromise the human environment. People fly internationally for businesses or holiday and travel locally to work or visit friends and family; it all add up to lifetime spent on the move. Globalization has drastically increased mobility as individuals can now shop across national borders.

Inclusion: Sometime referred to as social inclusion, it is the process of making concerted effort to improve the ability, opportunity and dignity of person or group that are disadvantaged within a society because of their identity or affiliations. Such identities can be in the form of sex, sexual orientation, color, tribe, disability or any form of diversity from the mainstream population.

Cultural diversity: Cultural rights, heritage, diversity, and creativity are the core components of human and sustainable development. If the capacities of cultural stakeholders are strengthened, they can become capable of addressing sustainability issues. That is why the world’s cultural diversity needs to be acknowledged because

they can contribute to and trigger sustainable development by becoming drivers of change.

Poverty reduction: Also known as poverty alleviation, it refers to both economic and humanitarian measure or set of measures put in place to drastically improve the condition of people living below the poverty line or to permanently lift them out of poverty. Such measures are intended to build the capacity of the poor to create wealth for themselves.

Social injustice: Inequalities and economic deficits in combination with various forms of discrimination and exclusion on the bases of identity and location-specific disadvantage are drivers that make people fall short in development. Hence, it is crucial to build foundational norms that foster mobilization that mitigates intersecting inequalities that include not only a universal supply of quality essential services as well as the structures that monitor intersecting inequalities.

Dealing with complexity and knowledge gaps: Not only our society have become more complex, developing in unsustainable ways that are difficult to understand and change, but also the advancements in science allow us to have more and more information about all the systems that compose the earth, therefore the ability and capacity to deal with more data or multiple scenarios will increase our possibilities to better manage the dynamics humans have created.

Approaches and tools

Our understanding of ”approaches and tools” is referring to didactic concepts and sociocultural as well as natural settings, such as (a) Hole institution approach, (b) Community involvement by, (c) Conscious use of digital and non-digital settings, (d) South-south cooperation, (e) Learning places.

Fig. 2: Approaches and Tools of ESD, Source: *Möller 2019* [iv]

ANESCo‘s contribution to realizing ESD

ANESCo represents a huge variety of professions as well as professional experiences dealing with SD. Its about 100 members are coming from universities and other education institutions, from administration, NGOs or the private sector. At the same time, coming from more than 40 different countries – from the global south and the global north - they represent the global diversity of cultural and social backgrounds.

Thus ANESCo itself integrates the complexity of our globalized modern world. The group has collected working experience during 4 project seminars and related networking activities since 2013. Within this time ANESCo has become not only a network, but a growing community of experts which is inspired by the common spirit and the creative power of its members all over the world to make the human society and the globe sustainable.

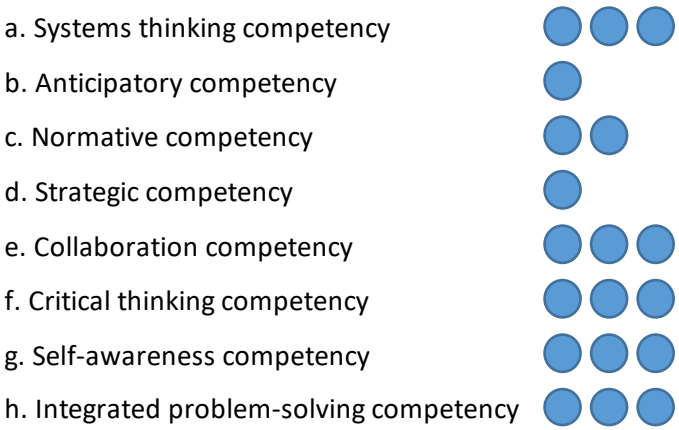

Fig. 3: Schematic estimate of ANESCo strengths in ESD competencies

During the seminar

Expert inputs

During the seminar with the keynotes on Education for Sustainable Development (ESD), followed by additional presentations, where experts introduced the methods and necessary skills to apply in various ways ESD. The seminar participants made a field visit to different schools where participants had the opportunity to observe and gain the first-hand experience.

Experience exchange

In addition to the expert inputs, the seminar also offered a formal (with inputs about their work and examples from the attendees) and the informal setting for the participants to exchange past experiences, share their works in progress, and explore

potential cooperation opportunities. This included a presentation on best practices and recurring challenges that practitioners face in various contexts.

Visiting and sitting in different Schools

The visiting and sitting was a great opportunity to learn and exchange. For instance, visiting the Evangelisches Schulzentrum Martinschule there were the exchange and recommendations on how to improve the use of energy, increase diversity, and creating school gardening. In this way, the participants made many recommendations in each of these areas; the school got a big bunch of new ideas, the participants profited from the knowledge of the others and gained more insight in the possibility to share and in that way strengthening the network for present and future collaborations in developing projects.

After the seminar

ESD Methods

Addressing this topic in working groups hopes to spark a discussion on examples of potential ANESCO and discuss on what's the best platform used for knowledge-exchange an ESD's methods. By forming self-managed working groups that take that possibility for a permanent exchange of ESD's techniques and skills.

School Exchange Program

The School Exchange Program consists of a collaboration group on ESD-related projects, its methods, and practices of ESD. For example, a school gardening, environmental education, and compost project between Nepal and Germany promoted by Nishad Malla (Nepal), in collaboration with A. K. Barounga (Central Africa), as well as other projects for instance in China and Peru.

Proposal Development

Those participants with experience with proposal development can share with others their expertise in applying their knowledge and techniques.

Website of ANESCO

ANESCO seeks to constitute an online platform for future collaboration and partnership with experts and organizations. This can help to acquire international acknowledgment and awareness for future partnerships. This initiative also seeks to become a platform for visionary graduate students and young professionals to propose innovative solutions in ESD and potentially and get the word out on UNESCO

Education for Sustainable Development in School

The cases of different education alignments are worldwide known. This comes together with education styles that parents chose and practice within the community. The study cases presented in this chapter shows how education is focusing on creating awareness on our environmental and consume decision making. Taking into account the education enhance also the abilities of people to deal the modern economical, social and environmental challenges, this work tries to describe some examples of education in the north of Germany and around the globe. The case studies also showed the potential of education in European countries and its application elsewhere in the search of better understandings of human development in relationship with the environment. The Martin school in Greifswald described to us not only the potential of its students in learning but also the form of teaching organization for a better performance at school, in the meaning that a school goes beyond of the lecture to students but embrace and involve also the school community at once.

Global networking takes the experience of participants into consideration for sharing knowledge and ideas since education, as showed in the first chapter, became to be a global issue thus reflecting among participants on its relationship with the environment.

Education for Sustainable Development in Schools Communication and Partnerships – Background, Analysis

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ANESCo study cases

Partnership, communication of participation are key elements to be used by schools in educating future citizens for sustainability. This key elements are part of this chapter in the analysis of different examples that the ANESCo Network where doing during the Alumni Network Project Seminar in Greifswald und Vilm during the 1.-11. May 2019. We will present some examples of the excursion we visited to the Martin School in Greifswald and the Freie Schule Rügen as well as examples like the School Virtual Exchange on school gardens and the practices of the Nepal school gardening in Nepal.

As ANESCo network we are also interested in the focus on the idea of partnership at international, national, community and school levels.

Communication, exchange and partnership to other schools, with parents, pupils, etc. require cooperation skills. Collaboration in ESD is challenging for schools, both in terms of the school's internal dynamics and in terms of the school's ability to cooperate with external partners. Cooperate and exchange as well as communication are crucial for sustainable development at all levels, so learning to cooperate should be a core part of education for a sustainable development.

From the keynote presentation at the project Seminar from Dr. Lutz Möller, Head of Department Sustainable Development and Science of the UNESCO German Commission, ESD enable us to seek and achieve compromises in the event of inevitable conflict of interests, and cooperate through empathy with other people aware of their different knowledge and values.

The theory and practice of ‘schools as learning organizations’ will be helpful for the school’s general development, not only in the field of ESD. The challenge is rising the awareness of the benefits for partnerships and exchange between schools and other stakeholders.

The role of communication in free school - Lessons learned

Communication in schools it is an important topic that strives the fluency between parents, pupils and teachers and influence in this ways a favourable, or not, environment for participants in school. The case study of Rugen showed that some requisites are needed to enhance communications. Beginning with openness and also how the organisms in the school are linked each other. And looking also at the interest of every individual organism on the school it is important to focus on the path in which communication is enabling the frame and goals of the schools.

Even though children are in focus of the school being as the centre of education, there is an interaction in many ways between parents and teachers, educators and children. The obstacles of communication break creating a friendly environment and trusteeship between the counterparts within the school and this automatically reflects in the outside relationships with the external organism.

This familiar environmental of communication approach enables pupils to have a creative and kindly way of learning. In our special case in the school in Germany, pupils are stimulated with a self-assessment impulse and carefully assessed in reports by their teachers in the middle school. This guide pupils as well to create and intrinsic motivation of achieving their own task in schools and being and adult responsible for their own actions. In this way academic learning it is complemented in the social learning influencing as well the capacity of learners to assimilate knowledge, which is brought in the school.

So parents become more confident and encouraged to participate in the learning process of the children and collaborate with school and teachers. With this confidentiality of cooperation and transparency for the relationship between teachers and their own children, parents tend to have interest for the structure and organization of the school.

For teachers communication will enable relationship wit their material and the knowledge is given, enabling an environment of trusteeship will also create a good practice for learning among pupils. In both case studies in Germany is highlighted team teaching as a supporting concept in the meaning of bringing the pedagogical aims into the practice in a more participative and trusted way. Such examples showed us that schools as living organism look for ways of communication which involves the

participation of their members. To achieve goals of ESD, in this way, needs a positive future vision and the willingness to set up elements of ESD at schools.

COMMUNICATION & EXCHANGE

VIRTUAL SCHOOL EXCHANGE PROGRAM (VSEP): Exploring ESD possibilities among schools:

VSEP is one of the good examples that gives the opportunity for schools to orient themselves into the ESD framework. Dealing with the topics that concerns everyone irrespective of their country of origin, this program facilitates pupils to exchange their practical experience related to the 17 Sustainable Development Goals (SDGs). Johanna Lochner, one of the ESD Expert managing 'Go!Global'-VSE program, believes some themes dealt, like 'school gardening', for example, is already a classical way of environmental education that could provide an opportunity to learn about environmental systems and connections. And with such exchanges it is not limited just to the technical aspects, as a global dimension and many others including socio-cultural aspects are realized into the context. The garden becomes the vehicle of the exchange as it is common between the participants.

For instance, there are these discussions about what one does with the things you harvest from the garden. Some people take them to the market, some bring it to the cafeteria of the school and others take it home. So, we are directly dealing with the different dimensions of sustainability. In social and economic dimensions, for instance, the discussions could be like where is the food coming from in the winter time when nothing is growing in the garden. There are certain things that can be stored which could also be some topics for discussion. Besides, children from other parts of the world can also understand that Germans have to import their food during the winter.

Johanna admits the cultural dimensions are also important and sometimes even political dimensions are being part of the exchange. Many different topics are talked and of course the environmental aspects are always one of the important aspects that are emphasized. So, she believes that we are in the middle of the ESD with such exchanges. Hence, the discussions followed can get the things get rolling to explore the different themes in all aspect of skills, knowledge, values, and attitudes that can enable the changes in a direction of more sustainable and just societies.

REAL SCHOOL EXCHANGES: (Students/Teachers/Experts exchange)

The VSE programs though being great ESD tool aren't exempt of its problems either. They face many challenges like technical skills and equipment's availability, time difference, academic calendars, gardening season, etc. However, Johanna, who also wrote her master thesis about difficulties and solutions in such exchanges, implies some challenges can be actually be opportunities to learn. Like the difference in gardening season is interesting for kids to see nothing is growing in Germany but in

Peru for example it is the high season of gardening or one can produce all year around and in Germany they just have one season.

With the advantages of the virtual school exchanges in context, there lies the huge opportunities and potentials in making the real exchanges happen, that will be far more profound in terms of effectiveness and impact. Though there lie some reasonable difficulties in terms of geographical, political, financial among others, having such exchanges be it real or virtual holds a great potential in directing the education towards the ESD framework as well as empowering the future generations in exploring their knowledge in a broader context.

Potentials of Communication, Exchange and Partnership between schools from National and International Perspective

Abstract

The importance of Education for Sustainable Development (ESD) in achieving the Sustainable Development Goals (SDGs) is known and has been well discussed. It influences individuals, communities and governments to understand, act and live sustainably. However, perspective to sustainable development is different from one part of the world to another. Harnessing the beneficial potentials of establishing communication, exchange and partnership between schools either on regional, national or international level is therefore necessary. In lieu of that, this paper employed semi-structured interview method to investigate the potentials, status and challenges of communication, exchange and partnership between schools on regional, national and international level. Purposefully, the study focus on two specific perspectives (1) from school teachers and (2) from motivated non-teaching activist in ESD related subjects from Africa (Nigeria), Asia (China and Nepal) and Europe (Germany). The findings show that knowledge sharing between schools on regional scale is good, but establishing partnership, communication and exchange of ideas from school teachers' perspective is demanding. The possibility is limited by factors such as time, bureaucracy and administrative demands, technical challenges, availability of motivated staffs, etc. However, it could be deduced that the influence of motivated activist in ESD subject areas with high interest in establishing contacts between schools both nationally and internationally is highly effective. However, it could be influenced by factors such as the age group of students, language and accent, technical demands, time-zone, academic calendars, difference in education system, medium of communication, seasons, culture and willingness of the involved stakeholders. Though communication, exchange and partnership is potentially beneficial, however, effective management of the above-listed influencing factors is necessary and are well discussed in the paper.

Keywords: Education for Sustainable Development (ESD), communication, exchange, partnership, national, international.

Practical activities & Tools

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Working concept and Group work summary:

ESD is an utmost important element which helps achieve sustainable goals. ESD in school should be considered as a holistic process not only the teachers and students, but also parents and communities in different aspects.

We are 5 people from the ANESCo working on the selected topic of ESD in schools, and focus on “practical activities & tools”. Our work is to figure out practical activities relates to ESD in schools and tools which school applied to achieve the goal of ESD, including contents and the approaches of the ESD implementation. And then we define challenges which schools are facing with ESD and give the conclusion and recommendations in the end.

Introduction:

Education is no doubt an inevitable mechanism for achieving sustainable development and ESD is now gaining wide popularity as an important change-agent for achieving sustainable life-style enabling individuals to envision the common future of the world in the day-to-day activities. The different levels of learning institutions therefore have a big role to play because a school which adopts ESD will be promoting learning for the future by encouraging both students and teachers to key into the culture of sustainability, reflected in the learning values and individual reasoning and actions. This way, ESD is regarded as a tool or opportunity for refining and improving the existing pedagogy, rather than an onerous concern by the school administration and the teachers.

The goal of this study is to evaluate ESD implementation at the primary education level in Germany. In many similar studies assessing ESD implementation outcomes, the targeted stockholders are usually the students or teacher related outcomes while a few others have considered the outcomes at administrative level. In this study, the key stakeholders considered are the teachers, school administration and parents by conducting unstructured interviews with them on factors that shaped their generic options and engagement in practices that facilitates education which enables all parties develop competencies to reflect not only on the present benefits, but also the future implications of the day-to day actions.

Method:

In the aim of understanding how ESD is currently implemented in german schools, the group visited two schools in Mecklemburg-Vorpommern, Germany.

During the visit in Martinschule, located in Greifswald, we received a talk from the teacher who is responsible for coordinating environmental programs at school. A short tour of the grounds took place.

At the Freie Schule Rügen, located in Dreschvitz, an introductory talk was provided by school teachers, with discussion opportunity. The group also interviewed the pedagogic headmaster, the teacher responsible for the school garden, a member of the administrative staff, the mother of a former alumnus and three pupils. The objective of these interviews was to gather the perspective of teachers, students and parents about the methods used for ESD. Certain members of the group got the chance to witness two lessons: English and German. A tour of the grounds was offered, including the school garden, the workshop and selected classrooms.

Findings of practical activities and tools:

The content and the approaches implementation of ESD

At the Freie Schule Rügen, holistic teaching acquires a new meaning:

- School garden:

  The aim is not only to show students in a hands-on environment about the biology of plant growth, but to make pupils aware about all the processes that need to occur to get food on the table. From kids helping build the greenhouse made out of clay blocks they shaped themselves, to bee keeping, composting and taking care of a seedling bed —made out of recycled materials—, learning about the ecological processes that take place in the small pond, as well as about rotation systems, crops associations and varied gardening methods, all the way to harvesting the produce and actually cooking food in a small grill or oven located in the grounds of the garden. This way, students can comprehend the origin of certain ingredients and all the steps involved in food production, understanding the value of food.

  Activities/ Tools:

  1. Showing students the biology of plant and animals (e.g. bee, fish, frog).
  2. Raising pupils' awareness of the processes of the daily food (from crops, harvesting, processing, cooking, etc.)
  3. Pupils' participation of building the facilities in the garden.
  4. Implementing the usage of recycle materials.

- Field trip and handicraft sessions:

  In this same line, some field trips aim to show pupils about whole processes of production. One notable example consisted of a field trip, during which

pupils visited a sustainable sheep farm; this way they learned about wool production from the source, afterwards they participated in the process of spinning yarn using a spinning wheel, and finally they were involved in sewing a recyclable bag. With the same approach with wood, kids can collect materials and make their own carpenter creation. And some interesting activities that aid ESD include and upcycling workshop, where kids can learn how to transform old and/or waste materials in a creative way to make new objects with better quality. An ongoing recycling program has also been implemented in the school.

Activities/ Tools:

1. Demonstrating to the kids about the resources of a product (field trip). (e.g. fabric, wood, etc.)
2. Experiencing the processing section.
3. Motivating the children to think doing recycle, even upcycle.

- Facilities as demonstrations:

This school adopts a true whole institution approach, in view of the fact that the facilities themselves promote sustainability; the school canteen provides food from regional sources; solar energy is used and children learn about this in their lessons; the school buildings are built with insulation, therefore promoting energy efficiency; some construction materials with which the school is built are environmentally-friendly (or using environmentally-friendly ways) to reduce green-house gases which promote climate change. In this way, the school is striving to become "Climate Protection" model.

> *The case of the Frei Schule on the Ruegen Island: The goal is to become a CO_2 neutral School, the school uses energy efficient measures to reduce energy consume or uses renewable energy. Additionally, each year students are encouraged to take part in EE projects called "International Agenda 21 Schule".*[1]

Activities/ Tools:

1. Cooperating with local sources of food in canteen.
2. Renewable resources facilities (e.g. water system and solar energy etc.)
3. Raising energy efficiency
4. Constructing with eco-friendly materials

[1]Freie Schule Rügen in Dreschvitz, School Brochure, 2019.

- Experiencing nature

  Forest pedagogy, or applied learning in a forest, fosters real-life learning in a very stimulating environment, which in turn provides several health benefits for the students, and "promotes understanding, use and application of the concept of sustainable development" as well as "contributes to education for sustainable development (ESD- UN-Decade)"2. The school also conducts courses related to nature protection in collaboration with nature conservation organizations. Another way to persuade pupils to protect the environment is to build artificial nests or houses for birds surrounding the school ground.

  Activities/ Tools:

  1. Adding a nature pedagogy into the curriculum. (e.g. forest, river, etc.)
  2. Collaborating with environmental related organization.
  3. Understanding environment by doing.

- Daily life concern:

  Another activity that was conducted consisted of calculating the carbon footprint from each student, i.e. the distance from each kid's house to school; a main outcome of this exercise was to promote a more sustainable mobility approach, which included inviting parents to use a bus or implementing a car sharing program. A flea market is held twice a year, to encourage students to share or exchange used articles.

  Activities/ Tools:

  1. Counting carbon footprint.
  2. Local mobility concern (e.g. car sharing)
  3. Flea market

- Interdisciplinary thinking and soft skills training:

  Pupils work on a 2-month project, where they analyse a topic from many different perspectives, for instance, they are assigned to work with a specific animal, so children have to make poems, drawings, scale models, compositions and other types of creations regarding such animal. In the end, they learn not only about a certain animal, but they get a first approach about integrating different aspects of a topic, which is crucial not only for

[2] http://forestpedagogics.eu/portal/

ESD, but for tackling today's multifaceted world, where problems need to be approached in a interdisciplinary manner.

Another resource that the school uses in order to teach kids soft skills is a plenary session, in which the classroom discusses a matter which is concerning for all students. This engages students to improve their environment, voice their concerns, ask for support, participate and get involved in problems of their concern. This competence building based education provides kids with tools that can be used in everyday problems.

Activities/ Tools:

1. Training interdisciplinary thinking by projects.
2. Training soft skills by a plenary session.

The Motivation for the SD knowledge and ability

Student motivation is an important factor for the different activities. In this care, the motivation plays an important role for the education of sustainable development. First, the intern motivation for the students makes them go to school happy and animated to learn; and second, the extern motivation makes that different conditions by which they are heartened to go to school. For example, the big playground, few homework, there are not numeric qualifications/scores.

For the pupils, the interaction and experience exchange with students from other grades represents an important motivation for implementing the activities, that make them satisfied in helping younger pupils (Magdalene's voice, 8 years old at 7 grade, May 7 2019) and expecting themselves are able to help others (Carl's voice, 8 years old at 2 grade , May 7 2019). The lessons sometimes are carried out in the playground (treehouses, little workshops, etc.) with fewer students and little homework are also a driver for pupils to learn more (Guy's voice, 8 years old at 2 grade, May 7 2019). Furthermore, a mother of a former pupil stated that "the school was a seed in the child for natural care and awareness of environment conservation".

Talking with students we realized that students in school are very motivated to take part in such activities, which is crucial in any learning environment.

Multiplying the SD knowledge and ability

A school with this kind of holistic vision seeks to develop and to multiply their activities and tools related to sustainable education every year, but the scale and the content are largely determined by the budget. The extension of sustainable ideas could be developed by pupils themselves, e.g. the Friday Forum in Freie Schule Rügen, the students are allowed to bring all topics they concerned into the discussion, such as local mobility transportation, terrorist attack, and environment concern.

Pupils multiply the knowledge they have learned, e.g. conducting the school festival, carnival, and café, etc. (Magdalene's voice, 8 years old at 7 grade, May 7 2019) and also, they apply their abilities into the school garden management, and share the experiences with their families (Guy's voice, 8 years old at 2 grade, May 7 2019).
The value, which passes on to the students from the education, affect the student in their following life, and triggers them to make the choices which are more environment-friendly, e.g. join the scout group and environmental protection group, become a vegetarian etc. Simultaneously, they tend to be more social and environment concern citizen, and apply their ability to resolve the conflict when facing sustainable issues. These facts are representing the SD knowledge and abilities are multiplying at the school level.

Challenges, Conclusion & Recommendation

Challenges

- Limited funding to run programs/projects, lack of capacity, mostly programs/courses run voluntarily or selective modules therefore only interested students/teachers are involved;
- It takes time to implement ESD at schools at the beginning
- According to the headmaster of the school, the main challenge is not to sensibilize kids, rather their parents. Some parents consider that it is fine that their children learn about sustainability in school, but are not willing to adopt actions outside the classroom because of traditional way of thinking.

Conclusion

- Kids are motivated to take part in ESD in schools even take time to prepare
- The students who have been trained by ESD could become a mediator to mitigate the confliction between different values.
- For the students, the connection toward the continuing education (e.g. high schools) should be emphasized. Considering the global scale, the education system in a different context could have a huge difference; therefore, it has to be changed in the system level.
- Schools implement ESD in collaboration with communities/parents/partners through projects/courses

Recommendations

- Since kids are the target audience, the essential element of education is to keep their interest.
- Combining the sustainability agenda into the curriculum, and keeping the educational structure as flexible as possible
- It is a trend in German schools to integrate (or even the whole world) sustainability issues in school education. While this could be challenging for conventional schools, on the other hand, it is an opportunity for more innovative schools. The

level of ESD implementation, however, is still non standardized among schools. Implement general guidelines, but not limits

- Partnership between schools

Benefit sharing from ESD in Protected Areas

By Laura Villegas, Gabriela Dragne, Vinay Bandari, Megh Dhoj Adhikari, and Martin Espinosa.

IV ANESCO Meeting: Education for Sustainable Development-Sharing and Linking International Best-Practice Approaches. May 2019

Education for Sustainable Development (ESD) needs to be a key aspect in the management and governance of Protected Area systems. It can offer children and adults criteria and tools to contribute to the sustainable development of the territories where Protected Areas are located, as well as becoming multiplicators for conservation activities at a wider scale. Studies have shown that students who actively participated in outdoor field visits, primarily in designated areas, developed stronger ties to nature and displayed a greater sense of social responsibility than those who did not participate in such activities (Palmberg & Kuru, 2000).

Benefits of ESD in the context of a Protected Area can be seen at different levels of the economy and society. ESD can empower students and tourists with knowledge, but most importantly, with the tools to undertake critical thinking (UNESCO & MIO-ECSDE, 2013) and self-determination when making decisions about their economic activities, use of the land, and daily habits. Decision makers and the government benefit from the positive attitude towards Protected Areas promoted by ESD (Vater, 2019). Lastly, the private sector favours from sustainable business models that rely on ESD inside Protected Areas (Thassler, 2019).

In this section, we report examples of benefit sharing derived from ESD in the Biosphere Reserve of South-East Rügen in Germany, and discuss current challenges to achieve a more homogeneous benefit sharing.

Benefit sharing from ESD in the Biosphere Reserve of South-East Rügen: examples.

Education Division of the Biosphere Reserve

ESD aims at strengthening learners' knowledge and reinforce their commitment towards sustainable development. Protected Areas help achieve these goals through real-life experiences designed to help learners understand the various pressures upon designated areas, by social and economic drivers. Therefore, ESD programmes and activities must be properly prepared and performed by trained ESD educators (UNESCO & MIO-ECSDE, 2013). The Biosphere Reserve of South-East Rügen currently develops ESD activities from the Education Division, led by Josephine Vater.

According to Josephine Vater, Head of the Education Division of the Biosphere Reserve South-East Rügen, the benefits of ESD are materialized in educational events for school children, e.g. Junior Ranger Programme, environmental education in schools, excursions & field trips, and for adults through volunteering activities and guided tours in the natural sites of the reserve, as well as in the information centres (Vater, 2019). These activities are benefiting young and adults of the local communities, as well as tourists. Studies have shown that field activities, especially at local level, facilitates the better understanding of concepts, the critical thinking and problem-solving skills and “internalize” the locus of control (UNESCO, 2002).

On the other hand, ESD in the Protected Area creates benefits for the government and decision makers by having a positive effect on the attitude of general public towards Protected Areas. Josephine Vater illustrates this with two examples: the establishment of the reserve in 1990, and the productive limitations of a nature reserve.

In order to strike a balance between environmental protection and economic development, the declaration of the Protected Area was a top-down decision which did not undergo consultation or participatory decision-making mechanisms. Therefore, the level of acceptance by the local community was quite low. Nowadays, and after ESD strategies with local communities, the Biosphere Reserve South-East Rügen has a better perception by local stakeholders. On the other hand, because of the productive limitations posed by the declaration of a Protected Area, e.g. agricultural production restrictions or furthering the tourism facilities infrastructure, in 2010 the local community was against keeping the status of the Biosphere Reserve. The situation changed in 2013, when the Biosphere Reserve management improved communication and education activities with the local stakeholders leading to a higher acceptance degree among the local people (Vater, 2019).

Ranger and Junior Ranger Programme

An ESD educator in a Protected Area should be able to help visitors “interpret” the natural environment, reflect on complex ecological issues, biodiversity protection, and sustainable management. He or she must also inform properly about the natural and cultural features of the site, and use diverse techniques and tools to translate scientific knowledge and motivate visitors to discover the different elements of the Protected Area (UNESCO & MIO-ECSDE, 2013). In the Biosphere Reserve South- East Rügen, the rangers are fulfilling the role of ESD educators.

Rangers in the Biosphere Reserve have different responsibilities. Three of them are in charge exclusively of taking care of the administrative tasks and the up-keeping of the different facilities of the institution, two are environmental educators, and some patrol the park and make sure illegal activities are kept under control (Witt, 2019).The Junior Ranger Programme offers children the opportunity to get involved and take leadership in the ESD activities of the Protected Area, while it offers career opportunities and the ability to consider alternative livelihoods for the future.

Daniel Witt has been working as a ranger in the reserve for seven years now. In interview with him, he mentioned that the ranger activities are optional, but quite sought after, nevertheless personnel limitations may be cutting back these types of activities from next year on. These ranger programmes, are creating entertainment and education benefits and free time activities for the local youngsters and tourists.

Naturerbe Zentrum Rügen

Nature experiences inside Protected Areas can be inspired by ESD, as is the case of the Tree-top walks in the Naturerbe Zentrum in the Biosphere Reserve South-East Rügen. Information boards and direct contact to the native forest on the 1.250-meter path and observation towers offer exciting and interesting facts about the native tree species and their different living conditions (Naturerbe Zentrum Rügen, 2019).

The development of the touristic infrastructure and facilities of the Naturerbe Zentrum Rügen has generated benefits for the private sector, local students and tourists. The company in change of the construction is a stock market listed company specialized in building tree-top walk facilities. Aside from the infrastructure necessary for the canopy walk, they rely on educational centres and other amenities through which they promote education programs and free-time activities for locals and tourists (Thassler, 2019).

The project is a cooperation between Die Deutsche Bundesstiftung Umwelt (DBU), to whom the land belongs and who provided the initial funding in a form of a 15 million Euros loan with a return time of 5-years. The project is so far the most expensive ever supported by DBU. The number of visitors per year to the centre, which includes two tree-top walk towers, varies between 250.000-300.000. Its visit revenues finance several education programs as a mean of reinvesting part of their profit into the local community, creating local jobs, and offering ESD activities to local community and tourists (Thassler, 2019).

The programs cover so far 5 schools and 7 kindergartens. The education institutions they work with are among the least privileged ones in the area. For the kindergartens they developed 10 modules that cover the entire school year, while for the schools they develop weekly activities that vary throughout the year (Thassler, 2019).

The centre creates economic benefits to the local community in the form of jobs and income. The rather extensive tree-top walk facilities rely exclusively on local manpower, and their restaurants are supplied by local produce, where the menu is tailored according to seasonal production. The company offers a series of guided tours and activities tailored for different target groups. In order to reach these groups, they developed several partnerships, one of them with the German youth hostel network (Thassler, 2019).

Lastly, the centre is creating direct environmental benefits. The centre is CO2 neutral, meaning that apart from the buildings themselves and the way they are managed another 7000 Euros pro year are paid off in compensation for other less controllable

aspects (staff that has to commute to work, emissions coming from the very tourists travelling to the place i.a) (Thassler, 2019).

Challenges of homogeneous benefit sharing from ESD in the Biosphere Reserve South-East Rügen

During the interviews and visits in the Biosphere Reserve South-East Rügen, the team identified some challenges in the above mentioned programmes. The following challenges can be limiting the homogeneous benefit sharing derived from ESD in the present and future of the Protected Area. These challenges can be summarized in the lack of funding, the more restrictive protection status on the Biosphere Reserve, and the lack of political will to continue ESD activities and infrastructure.

The lack of funds is mirrored in the incapacity of the Biosphere Reserve to offer the Junior Ranger Programme to a higher number of children (Vater, 2019), and to offer long term working contracts to the professional rangers (Witt, 2019), which also have the role of ESD educators. Therefore, the sustainability and continuity of the ESD programme of the Biosphere Reserve South-East Rügen is endangered, and with it the benefits derived from knowledge transfer and outdoor educational experiences performed by rangers. In the future these activities will be performed only by volunteers, which might restrict the capacity to have ESD educators with a proper training and experience and reduce the continuity and improvement of the ESD programme.

In the coming years, localities in the Biosphere Reserve can be due to more restrictive protection statuses which will restrict part of the activities that are still allowed at the moment, e.g. recreational fishing, private boat tours. ESD can, to a certain amount, support the communication and acceptance of these land use changes in the local community, however ESD needs to continuously improve, innovate, and adapt to a changing economic context.

Lastly, the lack of political desire for keeping the ESD infrastructure development in the island, e.g. a seal rescue centre, might enhance human-wildlife conflicts given the recent recovery of some species in the Biosphere Reserve. ESD programmes need to be strong and robust enough to promote a proper behaviour and coexistence of people and wildlife.

Tourism and its potential support of the 17 Sustainable Development Goals

Guilherme Henrique Braga Klaussner and Pablo Róger Moreno Romaní

Goals to Transform Our World

The Sustainable Development Goals are a 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 address a range of social needs including education, health, social protection, and job opportunities, while tackling climate change and environmental protection.

In this document we will try to describe two activities developed in in south America based on fishery on the southeast coast of Brazil and an experiential learning programs in Perú based on educational tourism in rural areas and protected areas.

And finally set a few learned lessons in order to communicate better the delicate dynamic between the stakeholders of such activities.

Sustainable Tourism Practices in Protected Areas (PA)

In order for us to understand and to get a common definition of PA we took a look in the literature that have been written. So, we find that The United Nations World Tourism Organization (UNWTO), the agency responsible for the promotion of responsible, sustainable and universally accessible tourism define sustainable Tourism simply as: "Tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities".

http://www2.unwto.org/content/about-us-5

In the same way of thinking, Protected Areas, define by The International Union for Conservation of Nature (IUCN), is a clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values (IUCN Definition 2008). Protected Areas, among others, are a mainstay of biodiversity conservation, while also contributing to people's livelihoods, particularly at the local level. Protected areas are at the core of efforts towards conserving nature and the services it provides us – food, clean water supply, medicines and protection from the impacts of natural disasters. Their role in helping mitigate and adapt to climate change is also increasingly recognized; it has been estimated that the global network of protected areas stores at least 15% of terrestrial carbon.

https://www.iucn.org/theme/protected-areas/about

"Sustainability motivations and practices in small tourism enterprises in European protected areas"

A survey of around 900 tourism enterprises in 57 European protected areas shows that small firms are more involved in taking responsibility for being sustainable than previously expected, including eco-savings related operational practices but also reporting a wide range of social and economic responsibility actions.

(https://doi.org/10.1016/j.jclepro.2014.01.071)

“The agenda setting power of news media in framing the future role of tourism in protected areas”

This exploratory paper examines the agenda-setting and framing role of news media in the ongoing development of the Draft Sydney Royal Botanic Gardens and Domain Trust Master Plan. The paper will argue that the publication of the Masterplan and ensuing public commentary has drawn into stark focus future challenges in juxtaposing the frames of public use, commercial tourism and scientific/cultural values in the sustainable management of protected areas.

https://doi.org/10.1016/j.tourman.2017.04.011

“Quantifying nature-based tourism in protected areas in developing countries by using social big data”

Spatial visitation patterns and its features on nature-based tourism are difficult to assess using only a field-based survey, which is costly and labor intensive. However, understanding of a protected area's visitation status is critical, as it can strongly influence the sustainability of natural resources. Hence, it is important to identify ‘where people visit’ and ‘why people visit,’ to evaluate the features attractive to tourists.

https://doi.org/10.1016/j.tourman.2018.12.005

“**Tourism, biodiversity and protected areas – Review from northern Fennoscandia”**

Tourist numbers in northern Fennoscandia outweigh those in other northern boreal - arctic regions, which creates a specific need to evaluate the impacts of tourism. This review 1) identifies patterns and trends in the vegetation and wildlife of northern Fennoscandian terrestrial ecosystems as a consequence of tourism and recreation, 2) discusses the implications of findings in terms of the intensity, area and magnitude of impacts, changing climate and management needs under increasing tourist pressure, and 3) identifies research gaps. The reviewed studies show negative environmental and biodiversity impacts that are most pronounced near tourist resorts.

https://doi.org/10.1016/j.jenvman.2015.12.011

Following cases:

Linking Tourism and Conservation

South East Rügen Biosphere Reserve

Humans have been living in the South-East part of Rügen island since the middle of Stone age, been systematically occupied by Slavic tribes, Danish and Swedish before

being definitely assumed under the governance of Meckelenburg- Vorpommern, northeast Germany. This history of occupation and land use, together with a diverse landscape shaped by ice, wind and the sea led to the existence of an extraordinary variety of habitats of flora and fauna, alongside fortified walls, churches and towns from the Middle Ages, to the neoclassical and resort architecture of the end of the 19th and early 20th century.

Here land and water are closely intertwined: Wide, fine sandy beaches alternate with steep cliffs flanked by boulder-strewn beaches; peninsulas and promontories are connected to another via narrow strips of land and at the same time separated by the waters of lagoons und bays.

As seen at the exposition in the Granitzhaus and detailed by Professor Knapp, the shorelines of the lagoons are often bordered by reed beds. Open beech forests and dry grasslands are found on terminal moraines exposed after the glaciers retreated, while meadows and pastures thrive in the lowlands.

With the efforts of professor Hans-Dieter Knapp along with others the South-East Rügen Biosphere Reserve was established on October 1st 1990 as one of the last acts of the German Democratic Republic – GDR just before reunification after the fall of the Berlin wall. It covers an area of almost 23.000 ha, half of it being water surface.**Es ist eine ungültige Quelle angegeben.**

Biosphere Reserves form model regions where within it human management obtains top priority. They are split into three different categories:

The Core Area (Nature Conservation): In this area nature develops without human impact. Conservation of natural or rather nature-oriented ecosystems are prioritized. Utilization for socioeconomic purposes are prohibited. In South-East Rügen this is the case of Vilm Isle and Granitz core area alongside with different bodden (lagoons).

The Buffer Zone (Nature Conservation): Surround the core area and aim at maintaining and preserving those ecosystems which were influenced and created due to human utilization. The objective is to establish extensive use of such landscape parts, which support a wide range of habitats for typical fauna and flora. Land use forms such as extensive grazing or semi-natural Forestry prevail.

The Transition Area (Protected Landscape): surround the buffer zone. Any economic use must be carried out with respect to nature and environment considering social needs as well.

With so many natural and cultural attributes, it is no surprise that the sociocultural landscape of the island of Rügen has always played an important role in generating income for the local population through visitation and tourism development.

Socio-cultural landscapes and developments in conservation

Beyond its natural beauty, the region is also known for its cultural landscape. Park ranger Daniel Witt delivered the staggering number of 6.7 million visitors per year, many of them concentrated in the summer bathing season, consisting on significant economical important for the island for more than a century, evolving from the so-called resort architecture (photo) to the newly developed Baltic Sea sustainable lodges.

Fig. 4: Newly constructed Summer lodges, South East Rügen. Source: Guilherme Klaussner, 2019

According to Witt, it was during the GDR period the mass tourism was further established, in many reasons because of lack of possibilities for crossing borders, east Germans from the south could only come to the Baltic Sea. Following the reunification of Germany, much of this tradition was preserved. In some sections of the road that brings to the south east part of the island where the Biosphere Reserve is located, more than 15.000 cars per day have been counted during peak season, being a significant problem for locals and for nature.

It was also after the reunification that one of the most traditional activities of the island experimented a severe decay. Fishery for long time has been the main income for local fishermen, shaping life of people for centuries.

Traditionally fishing in Rügen is carried out using small boats, materials and fishing arts with low impact to fish stocks, like stationary nets, tunnel shaped nets and gillnets. The small harbors and fishing boats are also popular attractions within day trip or long term visitors. However, after 1990 about 30 local artisanal fishermen were no longer subsidized by the government and came to rely on the overwhelming competition of Scandinavian industrial fishing. Currently, according to Witt, only two fishermen survive exclusively on fishing, a fundamental factor also for the disruption of family income and traditional life, forcing the evasion of young adults and the gradual abandonment of activities that have historically shaped the local cultural landscape.

The search for income alternatives and the maintenance of economic dynamics shows a great effort to promote the production of local agriculture, another fundamental productive modality in the characterization of the local cultural landscape. Within the Biosphere Reserve, these crops are developed in the Transition Areas and are often targeted by government programs to promote and strengthen sustainable land use. Cultivated fields are 16% of the total area of the Biosphere Reserve, which is very representative considering that there's 50% covered in water.

However, as seen on field with Witt, major monoculture are also affecting conservation efforts, especially due to spraying of fertilizers and herbicides near natural areas.

Governance

The Southeast Rügen Biosphere Reserve is an institution of the State of Mecklenburg-West Pomerania.

In addition to administering the reserve, the office functions as the regional conservation authority and is responsible for enforcing the nature conservation laws of Mecklenburg-West Pomerania.

Further responsibilities developed after the region was recognized as a biosphere reserve by the UNESCO in 1991. Today, the main responsibilities of the Office of the Southeast Rügen Biosphere Reserve are safeguarding the interests of the biosphere reserve, environmental education, research, and promoting sustainable regional development. An overview of the structure of the organization and its employees is available in the following organizational chart.

Benefits and Social Costs of Tourism

In order to get clear approaches and expectations of the dynamic along the administrations of natural reserves, it is a key factor to determine the benefits of such activities.

Some of the detected benefits for example are useful declarations that have to be determined and shared to the whole community that is involved:

- Joint international nets for sustainable tourism as practical instrument to generate socio-economic effects within protected areas benefiting also the regional development
- Providing a number of opportunities and advantages in dealing with local processes, visitor impact monitoring and marketing
- Elaboration of an action plan “Generating socio-economic benefits by a sustainable management of protected areas” providing input on values and benefits of protected areas
- Development of an action program on a “low impact” transport system network
- Investment in the fields of visitor monitoring, accessibility
- Development of a quality and eco label guide for protected areas

The determination of the benefits of such activities have a significant influence on the future cooperation of protected area managements and their local tourism stakeholders as this is acknowledged to be a key factor for a positive regional development combing nature conservation and tourism in the greatest possible sustainable way.

In Rügen, the Parks & Benefits project has influenced the various processes in protected area management by introducing and implementing the European Charter at park level in the BSR. The involved parks have developed long-term tourism strategies that will be implemented on the basis of 5 years action plans. The parks also have built up strong communication to their tourism stakeholders establishing regular tourism forums and involving them into the future development of the protected area. Furthermore, a basis for regular monitoring of social, economic and ecological benefits has been set to be implemented by all partner parks as well as parks across Europe. Strong dissemination activities have raised awareness for sustainable tourism issues and the European Charter itself among European practitioners in nature conservation and tourism.

Quality of information and infrastructure of Protected Areas

Local protagonism in Community-Based Tourism (CBT) initiatives for sustainable development: the case of Castelhanos, Ilhabela, Brazil

The Ilhabela State Park, located in the southeast coast of Brazil, has incorporated within its Protected Area and surrounding areas, caiçara[3] traditional territories. If, on the one hand, implementing these conservation units has impaired these inhabitant's lifestyle, on the other, it has qualified new usages and functions to the natural resources traditionally used for socio-economic and cultural reproduction. Traditional territories are inserted on areas of great natural fragility that are gifted with historical and cultural wealth, which are extremely desirable by the hegemonic tourism.

The caiçara communities in the Castelhanos Bay are comprised by 75 families located in the east side of the biggest island archipelago, only accessible, by a 18km non paved and in poor condition road, or by the sea. The caiçaras adapted their way of life to the resources of the forest and the sea, removing from the nature the sustenance of the family and the necessary utensils for reproduction of their culture.

In the last decade, with the regional commercialization of the destination, the territory has been facing pressures from seasonal mass tourism, which has been strengthened over the decades without much planning and control. A series of negative social impacts are seen as, for example, population growth, disorderly occupation, marginalization of the natives, the promotion of informal and precarious work, the multiplication of holiday homes that have generated high costs for the municipality for demanding the urban infrastructure that has been idle for a large part of the year, increasing deforestation and urban sprawl, the launching of illegal sewage, irregular occupations, disorganized visitation and the advance of large enterprises linked to the

[3] ***Caiçaras*** *are culturally differentiated groups self recognized as such, having their own forms of social organization, which occupy and use territories and natural resources as a condition for their cultural, social, religious, ancestral and economic reproduction, using knowledge, innovations and practices generated and transmitted by tradition. Brazilian Federal Law 13.123 from may 20th, 2015*

oil and gas chain, competing for fishing territories. **Es ist eine ungültige Quelle angegeben.**

Although the communities of the Bay of Castelhanos managed to be on the margin of these pressures for good period of time due to the intrinsic characteristics of isolation, recently the economistic logic of the day trip business model, largely based on the amount of visitors, brought a series of conflicts related to socioenvironmental transformations and also to the caiçara community way of life. The growth of conventional tourism has proved ineffective in the financial empowerment of local caiçaras. The trade remains concentrated in the hands of the same protagonists' outsiders of the previous decades and for the local residents the benefits are reduced, characterizing the exogenous and excluding nature of the practiced tourism. **Es ist eine ungültige Quelle angegeben.**

At the same time, it is also notable the growth of tourism with a more responsible premise and an increase in consumer awareness for engaging in actions linked to environmental and social causes. It was in this context that the possibility of endogenous development, guided by the insertion of caiçara people along with the valuation of the traditional know-how presented itself to the local community in the year of 2017 through the *Project Community Based Tourism in the Castelhanos: Strengthening and Sustainable Development*.

Conceived by a multidisciplinary group of volunteer specialists and coordinated by the environmental educator Daniella Marcondes, the objective was to bring to the community concepts and practices of CBT and to identify local potentialities, to promote the appreciation of associated traditional knowledge for income generation, to spread sustainable tourism, to promote and commercialize CBT and, last but not least, to stimulate the leading role in the local development process.

Fig. 5: Castelhanos CBT Project logo. Source: www.castelhanos.org

In order to initiate a movement that showed to the local managers the need of a greater community protagonism in the processes of tourism in traditional territories in the sense of involving and developing together with the caiçaras aspects foreseen in the public policies, the proposal brought the objective to discuss with the community of

Castelhanos the principles of CBT, highlighting the importance of the protagonist role of caiçara for territorial development.

It was approximately five months of weekly meetings planned in thematic modules. The main topics covered were: concepts and principles of CBT, exchange of experiences with communities with similar projects, participative construction of the desired tourism proposal, identification of attractions and services with elaboration of the respective descriptions, safety and tourism activities in natural areas, pricing of experiences and services, mapping of community actors, procedure of management and operationalization, dissemination and commercialization of CBT, preparation of manual of good conducts for community and tourists and the creation of the Center of Community Base Tourism and its Internal Regulation that determines, between other aspects, the administration of the Tourism Fund, the logistics and the general operation.[4]

Fig. 6: Traditional purse seine fishing, CBT Project Castelhanos. Source: www.castelhanos.org

Fig. 7: Young Monitor with tourists at the community, CBT Project Castelhanos. Source: www.castelhanos.org

As a product of this first stage, itineraries were developed focusing on the socioeconomic and cultural experience of the community. Among the experiences they

[4] *Information provided by Daniella Marcondes, by interview on may 2019 and on her non published PhD Thesis.*

offer conversation circles with the elders, fishing net workshops and the production of bamboo baskets, boat trips and observation of traditional activities, such as visit to the fishing fence, in addition to the services such as lodging and food options.

The result of all processes, built by the community in a participatory and horizontal way, was systematized and transformed into the Community Based Tourism website (www.castelhanos.org) and, as a consequence of this initial phase, invitations to attend trade fairs and tourism events to share the challenges and successes faced so far arose. The website contributed to generate spontaneous media with approximately 40 articles published in newspapers, blogs and magazines disseminating the experiences. [5] As sustained by Marcondes, the project is based on social, environmental and economic aspects that value the traditional way of life, the protection of natural resources and generate income through low impact experiences linked to the primary activities of the communities involved. Having said this, "CBT is an alternative for participatory management based on community empowerment, where the actors become the protagonists of the decisions promoting local resistance and influencing the formulation of public policies for the promotion of social and territorial development." [6]

The history of the Castelhanos project reinforces Community Based Tourism as a management model with a coherent proposal to the principles of sustainable tourism. It stands out for differentiating its products transforming them into experiences, reinforcing the characteristics of participation, conservation, social and cultural redemption. By promoting authentic and participative experience, works towards the transformation of spaces through a situated economy, linking tourism to the continuum of traditional activities, social inclusion and territorial protection, and this reason requires the lower density of infrastructure and services in place of the valorization of the environments in which they are installed.

As seen, CBT is interconnected with other elements such as education, health and the environment. In this sense, initiatives, as presented in this case of Castelhanos, are not exclusively dedicated to tourism, but rather to the strengthening of aspects related to the valorization of culture and way of life, representing a proposal for sustainable territorial development.

Vamos Expeditions Peru

Linking tourism with education in protected areas based in a practical case of Vamos Expeditions. Vamos Expeditions is a tour operator founded in 2005 in Lima, Cusco and Puno in Perú. The company provides safe, life-enriching adventures that support sustainable development, cultural heritage, and the environment doing private road trips; travel student groups; Couples; Families and groups of Friends and also universities and School trips.

[5] *Information provided by Daniella Marcondes, by interview on may 2019 and on her non published PhD Thesis.*
[6] *Information provided by Daniella Marcondes, by interview on may 2019 and on her non published PhD Thesis.*

Experiential learning

In the "Experimental Learning trips" international students get outside of their comfort zones facing different situations at a rural space in one of the many national reserves in the high of the peruvian Andeas in the dry of the dessert coast or wilderness of the Amazon rainforest; clima, altitude, food, language are some of the challenges that students face during their stays at home with locals in their stay homes.

It is intended that these experiences take place in the learning activities and work life.

This are holistic programs that works relationships with people and landscapes of Peru experiencing its historical, ecological, anthropological and cultural diversity among others.

It aims to develop skills for applying what has been learned in classrooms: global citizenship, climate change, leadership, teamwork, adaptation to change, communication, learning for life.

The learning experiences are design timely with a content of skills, learning competencies to be achieved, voluntary work among community members.

The components of such an experience are:

- Challenging travel experience
- Service through projects
- Debates on development issues
- Stay in local's homes
- Exploration, walks Thematic focus

The effort of the different groups that take part of the visits in the protected areas are concise in values to express, to share and to practice. This part of the experience is almost the most important in order to determine and acquire de value of the trip.

Fig. 8: Values of the program

Following the examples of tree activities visiting national reserves of Peru in the coast, Andean region and rainforest.

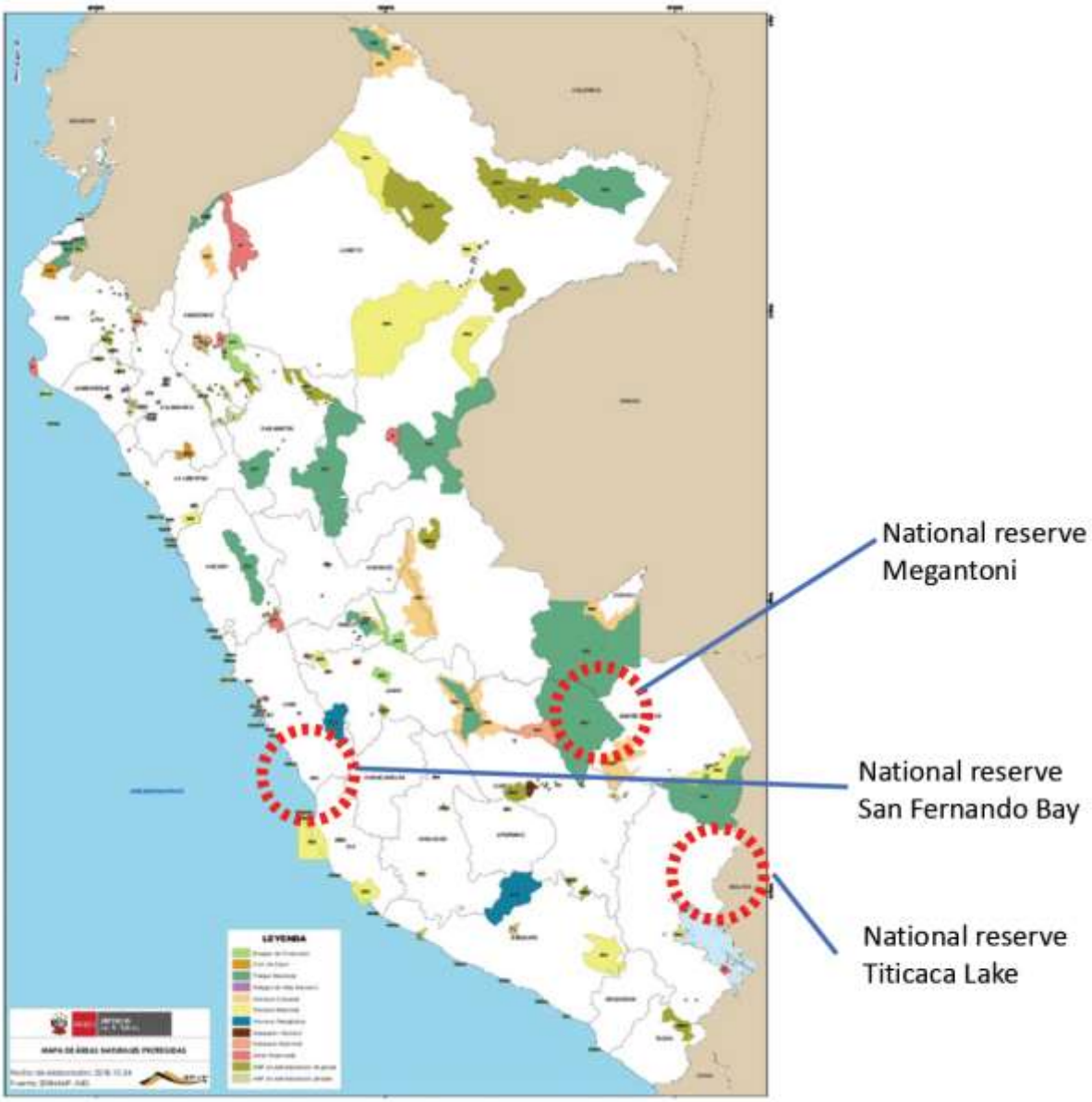

Fig. 9: SERNANP- Map of the National Parks and Reserves in Peru. Source: Self editing and SERNANP

Fig. 10: Island of Ticonata at National Reserve of Titicaca Lake- Peru. Source: Pablo Moreno Romani, 2018

Australian students enrolled with the community of Ticonata at The Titicaca National Reserve (RNT). It is located in the continental waters of Lake Titicaca, the highest navigable lake in the world, in the vicinity of the provinces of Puno and Huancané in the department of Puno, an average altitude of 3810 meters above sea level.

An exclusive encounter with nature and the Andean Condor, one of the largest birds in the world so embraces the perfect combination of desert and ocean at San Fernando bay.

40 miles (70 km) north of Nazca, one of Peru's last marine shelters graces the coast. The untouched, rocky beauty of the bay and the hundreds of species of animals and plants that live in peace there bring visitors to this still somewhat "secret" place between the desert and the sea. Some of the species that one could see like the Huanaco, and condor are in Peru in danger of disappear.

Megantoni is a protected area in Peru situated in the Cusco Region, La Convención Province, Echarate District. It protects a part of the Peruvian Yungas ecoregion wich is one of the richest areas to research in biology.

Fig. 11: Kinsa Cocha at Parque de la Papa- Pisac- Peru. Source: Pablo Moreno Romani, 2015

These activities include information on the importance of water resources for flora, fauna and surrounding communities. In the Community of Paruparu in Pisac, Cusco the Kinsa Cocha lagoon represents the most important resource for the agriculture of this place inserted in the project of the European Union called Potato Park. As well as for the sanitation, water supply of the communities of this region.

The northern part of the country is home to one of the richest and most important marine ecosystems in Peru. Much of the country's artisanal fishing activity depends on these waters remaining healthy and continuing to provide their products in a sustainable manner, which is why the State has been promoting its conservation through the proposal to create the first 100% marine protected natural area in the country. country: the Grau Tropical Sea National Reserve, a category that includes the rational use of resources by effectively managing the main feeding and refuge area for species as diverse as whales, turtles or stingrays, and vital for fishing such as groupers, cabrillas and hakes.

In addition, its creation will ensure the representativeness of the area of union of the two main marine currents of Peru and advance our international conservation commitments, generating multiple environmental, social and economic benefits for Tumbes and Piura.

During the activities in the rural communities' students, community members carry out short term projects in multidisciplinary teams for a visible impact; related to the current challenges of the world and that fit to the 17 SDG. The design of the travel plans contains activities related to knowing the three most important water sources in Peru and that have global importance.

The role of the direct stakeholders

Students who are University and school students:

- Previous preparation about Peru and the community to visit
- Participation in project teams
- Assume coordination roles throughout the trip

Tutors and members of companies (University and company)

- Support in the adjustment of competencies to achieve: learning for life; global thinking; soft skills
- Financial support for the execution of the trip or projects
- Support activities in the conduction of the groups

Coordinators (Vamos Expeditions Team)

- Conducting the program from its design, carrying out activities with students
- Coordination with the community and logistics in Peru

Accompaniment throughout the trip to carry out the planned activities

General lessons learned

The practice of tourism in cultural and natural landscapes is interlinked with elements such as education, health and the environment. In this sense, tourism initiatives as a form of environmental conservation at the community level are not exclusively dedicated to tourism, but rather to the strengthening of aspects related to the valorization of culture and way of life, representing a proposal for territorial development.

In areas where a rich historical and natural mosaic predominates, such as the cases presented from the South East Rügen Biosphere Reserve, the traditional caiçaras communities of the Castelhanos Bay in Brazil and the Natural Reserves of Peru, becomes fundamental to converge between the economic, social and environmental dimensions fostering empowerment, community organization and protagonism.

The process of implementation of Community Based Tourism at Castelhanos has sought to be the answer to the beginning of the transition from conventional tourism to

the local associative development that guarantees the permanence in the lands and the valorization of the associated traditional knowledge (MARCONDES, 2018).

The case Castelhanos shows that the most significant contributions may be ratified by strengthening social organization, participation in decision-making processes, including the tourism benefits and the permanence in the traditional and preserved territory.

In the high Andean communities of Peru, it is very important to value and preserve the cultural, anthropological, ecological and customs of the communities that are visited by foreign travelers.

The protected areas of Peru are in all regions such are the coast, the highlands and the Amazon rainforest and represent a great potential for economic and social development for the adjacent communities.

It is key to involve the schools, universities and institutes of the country to develop within their curricular plans activities to know and explore opportunities for development in protected areas.

Communicating the ecological value of areas surrounding formal protected areas

Carlos Ramirez and Indra Sapkota

Introduction

The conservation community have been debating whether society should focus on preserving unique ecosystems in the world, while using the remaining areas to for developing and satisfy society needs (often known as land sparing). Another current, however, considers that humans and nature are able to coexist in the same system (also known as land sharing). This last approach has been the most common among conservation scientists. In such shared environment, nature and human communities could occupy the same space or immediate adjacent spaces and therefore human activities should be compatible with the ecosystems they live in.

One way to protect sensitive ecosystems and their flora and fauna is through the establishment of protected areas (PA), in which governments set aside land or water areas for ecosystem conservation. PA are characterized by increased land use regulation, where human activities have lower impact on the environment in comparison to those areas that lack protection. In most of the cases, formal protected areas have the goal of promoting species conservation.

This concept of separating PA from those that have more relaxed regulations could have an impact on people perception regarding of how people interact with the environment. The perception that many people have of protected areas is that these have special characteristics and therefore been selected for protection. While this is true, this approach could also give the perception that other areas are not ecologically or culturally important. In reality, the vast majority of land is not under protection, and thus the majority of the ecosystems are susceptible to human activities that can jeopardize their persistence.

Without people's participation in conservation efforts, it would be difficult to diminish human pressure on non-PAs. We believe that education for sustainable development (ESD) could pay special attention to modify the language and approach of presenting both PA as those with good conditions for species, but also non-PAs, which in fact also are potentially good for biodiversity and other ecosystem services, such as water regulation, carbon sequestration, and cultural values.

We argue that there are underutilized opportunities to bridge the gap in public awareness of PA and non-PA. Some actors that can influence this are:

- Schools
- PA management
- Local communities
- Tourist operators

Recommendations:

The idea to bridge the gap between PA and lands beyond them requires outstanding efforts on different levels. The quickest way to bridge this would be from top to down approach for making agriculture more sustainable and infrastructure more ecologically-friendly. Developing proper legal framework and implementation necessary actions would give a proper ground for making landscapes outside of PAs closer to natural ecosystems. But at the same time we should be focused on changing perception of protected areas are the only island of nature in all target groups.

In case of schools, these can change the discourse by developing lessons about biodiversity in the vicinity of schools and microlevel of biodiversity (e.g. invertebrates, mosses). It is also important to carry out the lessons based on peer-learning experience and let the children learn about natural and anthropogenic ecosystems in their surrounding first and then make a point that the systems go beyond their immediate environments.

Perhaps the most important concept that should be discussed more in schools, and other education outlets such as guided tours, information booklets and panels, is the ecosystems approach, in which PA are part of a larger and complex systems, with interdependence and exchanges. This concept can short the gap on public perception, and thus making them aware that the landscapes that are outside the PA provide benefits to people in the communities outside PA and also potentially to those inhabiting PA.

One simple example to show the ecosystem approach, and therefore the importance of non-PA, is using the schematization of a river, flowing to a protected area from a non-PA located upstream. In this way it could be shown that non-PA impacts the PA downstream. Another example could be use by showing migratory species, which migrate from non-PA to PA, and other species move across the landscape from Pas to non-PA. Highlighting this message to people will strength the perception that areas that do not belong to PA are also valuable.

Our Visions interview to Students and practitioners

Seyeon Harita Jeong and Violeta Vásquez

The case studies in Germany impulse international practitioners of sustainable development to get informed the advances of Education for Sustainable Development, ESD, and enable the reflexion in their home countries.

The appreciation of the work in many different ways to support sustainable development was an impressive area of focus and turned into a learn experience of alumni visiting the seminar. In which the understanding of value of the cases studies are forefront and giving the impulse for the continuity for practices in this context.

Practitioners become to released that the common understanding on education can only be suitable at the moment when ESD includes the diverse disciplines into the learning process of humans.

A social understanding of economics is raised when talking about benefit sharing of management in national parks as a way to become an awareness *homo sustinensis* practitioner. In this way, experience learning also enable alumna to be confronted to a new situation in reflexion to what they already know and sharing the different perspectives of their countries and the same time feeling motivated and encouraged to be an *agent of change* for sustainability in the manner of education and resource use. This awareness is crossing the outline of ESD on practice, since there is a necessity of institutional review of our practice in education, but also looking at the ethos of the institution to cope with sustainable development.

In the following we present an interviewed of some of the participants and their thoughts regarding the case studies of ESD in schools and in national park in Germany.

Questions and Answers

1. **What were your key lessons from the ANESCo 2019 seminar?**

   - *"The seminar was **fruitful** especially because I was able **to learn** about great **ESD practices** in Germany. Those were not completely new, but refreshed a lot of my experiences in Europe before. I realized that it is very important **to reconnect to previous** experiences.*" (Gao Heran)
   - *"This year's seminar confirms, once again, the strong asset of our alumni network – **exchange and collaboration** among researchers from diverse disciplines. I will continue pursue interdisciplinary cooperation when I return **to Taiwan, to my work**. I also enjoyed so much to feel reconnected to the nature*" (Yu-Jung Tai)
   - "*The key lesson that I learned from the seminar is importance of international cooperation and networking*." (Guilherme Henrique Braga Klaussner)
   - *"I must say that I appreciate and learn a lot from cultural diversity that we have in this group. It was very interesting that participants had quite different interpretation on the same ESD example based on their*

backgrounds as well as the context of their knowledge and experiences. Also, I find the method workshop helpful to make group projects more productive. Lastly, the learning atmosphere of the seminar, which was dynamic and balanced reminded me of the importance of managing everyday stress at work." (Indra Sapotka)

- *"In my understanding, the seminar raised us a question of what are the common needs in different ESD approaches. To answer that, we need to strengthen and maintain the alumni network."* (Pablo Roger Moreno Romani)
- "*There are two key lessons from my side; firstly, I was impressed with diverse ESD cases especially because they contributed to the actual transformation of the organizations, community and furthermore to the society. 'education for transformation' is my keyword. Also, we need to learn more how to achieve international collaboration to effectively solve problems*. (Adesipo Adegbite)
- "*Running a school garden project in the remote area in Nepal, I learned a lot by practice. ESD frameworks and concepts that were presented at the seminar gave me some new perspectives. I would like to integrate them into my existing projects*." (Nishad Malla)
- "*I was very powerful to have loads of living experiences through excursions, workshops and so on. I had so much fun not only in gaining scientific input, but also, the whole seminar showed me how valuable interdisciplinary knowledge sharing is*." (Violeta Vasquez)
- "*To me, it was very meaningful to see how the ESD concepts worked in the specific project. Networking possibilities were important to me as well."* (Hoang Thi Ha)
- *"I was highly impressed with self-motivated researchers and education practitioners. I believe that those self-driven people served as a project's success factor as well as the role model of good ESD. This seminar also gave an insight that importance of adult education (life-long education) has been increasing."* (Gabriela Nicoleta Dragne)
- *"In regards to the specific content input, junior ranger program was impressive to me because I have been conducting educational projects in the protected area in Kazachstan. I am inspired to do something similar with our children. The junior ranger program that we were introduced in the Island of Rügen is an effective education tool because it promotes practical knowledge as well as providing interactive format in the field. Another lesson from seminar is that we need more south-south cooperation. Listening to the presentations, it was striking to me that there are more in common between projects in the global South. We are rather in similar development stages, so it will be valuable to share more success stories and methods*." (Rustam Murazakhanov)

- **Commonly mentioned keywords:**

  South-South Solidarity

  Interdisciplinary Cooperation

  Networking and Partnership

  Cultural Diversity

  Education for Transformation

  Integration of Old and New Practices

  Knowledge Sharing

  Interactive Education

  Lived Experiences

  Life-long Education

Questions addressing Education for Sustainable Development in pilot schools in Germany:

According the interview with participants they see an strong relationship within the Sustainable Development Goals (SDG´s) SDG 4, Quality education, SDG 15, Land and life, SDG 17, Networking. This reflects the purpose of quality education as an integrative and correlated task for policy makers and practitioners.

(To the school practitioners) What is your Vision in regards to education methods and Tools after the seminar?

"I think it must be ESD part because before I was living at the nature school project from the pedagogic point of view nature and environmental education and all this time we clarify the definition of ESD and we learned from the German best practices in different schools so I will be looking our nature school practice from a more comprehensive way approach" (*Gao, participant of ANESCo, 2019*).

"*This topic it was not complete new because I was working in a kindergarden with this concept but not completed 100% like the schools that we visited here, so it is an interesting topic so I want to maybe apply for a project in a Kindergarten that maybe that can be in linkage with English and put something regarding to this conservation nature for this garden I can apply in a small group*" (*Jorge Paredes, participant of ANESCo, 2019)*

(To the school practitioners) Do you have any new vision in related to the phase "Think global, act local?"

"*Because in my program already linked already with international volunteers and in the future I would really like to linked more closely, first with my alma matter Greifswald University and combining the existing resources with my university with nearby regions like Freie Schule Rügen and then I would considere to organized more close colaborations with other alumna in countries like Nepal and Taiwan and other regions as well*" (Gao, participant of ANESCo Seminar, 2019)

"In my country I was thinking about an educational project and in my master degree I make an educational project in a rural area in Peru. But I dint put any of this concept, si maybe I can adjust with some new things I have learned here". (Jorge Paredes, Participant of ANESCo Seminar, 2019)

"Though I have various impulses, I do not think differently at all. There is no vision as long as the Institutionalized Public Basic Schooling (IPBS), which is a one-fit-all educational system is completely deconstructed and replaced by the Education for Sustainable Development (ESD). ESD expressed nothing else but the failure of the standardized formal educations systems. It should be community-based, environmentally related and culturally specific in order to act locally for the global challenges" (Abdel Baraonga, ANESCo, 2019)

Questions addressing Education for Sustainable Development at national parks

(To the practitioners from protected areas) What is your vision in regards to local partnership and fair benefit sharing after the seminar?

„*The most important part of benefit sharing is equity. if benefit sharing is equity its goal is approached"* (Indra, Participant of ANESCo Seminar ,2019)

„The benefits getting he dynamic and the relationships between the investors, the communities in the protected areas. One who takes the highest risiko maybe is the one who takes the most benefits of it" (Pablo, Participant of ANESCo, 2019)

„*I was working in a particular area in central Mexico, the NGO was trying to promote benefit sharing and they were trying to promote community management in the area. This was a way to encourage the participation of the local community and the maintenance of the area but also the production of economic inputs of the protected area besides the protection. And besides the economic incentives how to produce differentes goods on the protected area there were also a component of environmental education. I would not say that this would be a typical in all the protected areas in Mexico but at least there were different groups in that area they were trying to incentivate a lot of work, because there was a lot of work still not being done. And they promote it in different areas"* (Carlos, Participant of ANESCo, 2019)

„*In PAs is very important to share the benefits what people can take from protected areas. As benefits we call ecosystems services but not for private person but all the community as well. That means this benefits should be share between the different families, persons who have been benefits between the ecosystems services. If not can create conflicts in the community. People living in the city mostly they don´t know how is water coming for instance. People living in the cities should pay this benefit in order to protect the areas". (Olman, Participant of ANESCo Seminar, 2019)*

„The partnership and benefit sharing must be provided on transparent and fair way. Communication among partners and stakeholders is a key element of a partnership. Anyone has to be aware about benefit sharing" (Rustam, Participant of ANESCo Seminar, 2019)

(To the practitioners from protected areas) Could you describe your vision in related to the topic "Linking tourism and conservation?"

„Linking tourism and conservation, we have to preserve nature to compensate the cost of the maintenance. You have to enhance the non comsupte value the revenue of this value it is return to this approach" (Dr. Indra Participant of ANESCo, 2019)

„In my experience from various expeditions there is a virtual circle. The students that we arrange to go to rural areas in Peru are learning much more of soft skills and to respect the nature to know other languages, cultures around the world. The communities are very placed to get this visitors because fisrtable they get an economic profit of their relationship but also they relase that keeping the value that they could offer in form of tourism it has to be kept for the future.

For example, anthropology, culture languages, the way they harvest for example potatoes in the way they use to weep and paint with natural colours. This are values of the communities and should be kept. And do not to forget, those are resting places of the high Andes in Peru and one can see the amazing geography, mountains, lagoons" (Pablo, Participant of ANESCo, 2019).

„Mexico has a lot of opportunities to develop the tourism of industry, however not everybody can participate in tourism industry. Like I am sure you can diversify the industry but also have a lot of impact so there should be a lot of regulations on it. I am thinking on the Yucatan Peninsula where the tourism industry is developing super fast and brings a lot of effort and getting out of control in the area so there is a lot of pollution driven into the water bodies. There is a lot of deforestation happening because of the necessity of the tourist coming to the local area. And the benefits of tourism are taken into very few hands. There are very few companies that profiting into all that.

There should be mechanism that prevent the monopoly of tourist areas specially in the proliferation of those that can impact in a bad way the protected areas" (Carlos, participant od ANESCo Seminar, 2019).

„Because there trade offs between the conservation and the tourist. If you preserve you conserve the natural resources. If you degraded the natural

resources the tourism will lose interest and you can not got there and you can not invite tourism to visits those areas. That means there should be a relationship between this protected areas and tourism but a positive tourism" (Olman, participant of ANESCo Seminar, 2019)

„I would put more focus on sustainable and environmental-friendly local or national tourism. International tourism despite of economic attraction is responsible for significant share of greenhouse gases emission. Local nature tourism still should be implemented on safe and wildlife-friendly manner" (Rustam, participant of ANESCo Seminar, 2019)

„After this seminar I plan on installing the learnt methods of sustainable education in my home –especially with my son. I now understand that children are capable of motivating themselves to learn new things and thereby apply the learned skills and knowledge in their daily lives sustainable!" (Maria, participant of ANESCo Seminar, 2019)

Case study: ESD in Free School Ruegen

By: Maria Tereza Nagawa, Henry Mensah, Dorothy Nalumu, Abdel Kader Barounga, Heran Gao

Brief Introduction

Free School Ruegen was founded by a group of pregnant mothers, in pursue of sustainable education for their own children. When they could not find any which meet their standard at the island, they decided to establish a school themselves. Now 15 years later, Free School Ruegen, with 132 pupils is standing in an open field of Ruegen island, where individualized learning and interdisciplinary lessons are offered. The learning groups are mix–aged, undertaking different subject. The learners are not graded by traditional method but self-evaluated.

The school and its teachings are self-organized (learners, teachers, parents) and learner-centered. The teachers' compassion and love towards the children are the heart of the school. In addition to daily learning activities, the pupils can also chose from more than 20 extra-curriculum courses, such as theater, pottery, dance, music, sport, gardening etc. The school follows the education framework provided by the federal government, but how to realize the goal is up to the school itself.

Free School Ruegen has aimed to develop into a model school for climate change adaptation by achieving a CO2 neutral school. The school has also won the title of Agenda 21 school, as well as twice the environmental school price.

The school values the **free spirit** of its teachers and learners, which means people can leave up to their full potential, the learners will come up with their own initiative for the teacher to guide them. Teachers enjoy freedom to propose a curriculum which based on their own interest and expertise and meets the learners' and school need.

Method

Data sources

The study was conducted using qualitative data, therefore three data collection method namely expert interview, focus group discussion and observation were applied. Regarding the expert interview, the researchers interviewed a teacher who is a co-founder of the school. Additionally, focus group discussion was conducted comprising of six teachers and a parent. This was followed by date elicited from respondents presentation. Observation method was also applied, to observe and confirm the field application of ESD in the school. Classroom observation was conducted to gather information on the the interaction between the teachers and learners and between peer to peers. Interview guide was used to elicit information from the respondents. The questions were predetermined and followed up questions were also asked as and when the need arises. This approach helps the researchers to exhaust all the questions in the guide.

Data analysis

The data was collect using field notebook to aid writing of information and digital camera for taking pictures on the field. The interview data were rewritten for clarity in word document to enable easy identification of important issues. Themes were generated from the interviews and it was further described in the results.

Results and Discussion

ESD activities in the School

Environmental activity at school level:

- Energy: solar panels, aiming to achieve carbon neutral
- Passive building
- **School garden**: biodiversity in the garden (food production)
- Rain water harvesting
- Natural playground
- Bicycle
- Compost, waste management

Social:

- Teachers: self-fulfillment to realize their own potential, thus passionate about their work
- Learners: given opportunity to develop physical mental social wellbeing. From the interview, we learned that the learners are confident, self-aware, inquisitive and motivated, equipped with self-management skills, developed good social skills through peer-learning, built meaningful relationships. They are responsible decision makers, thus welcomed in the secondary schools.

Community level:

- Parents:
  - receive a monthly letter from the school informing them the activities in the past month and the coming month, asking for their support and involvement into school operation.
  - Parents can offer an extra-curriculum activity to the children, such as a fish course, or theater preparation.
  - Conversation channel for positive and negative feedbacks. In other way this also enable the children to learn about address their concern and feeling in a straightforward way.
  - Each year the demand of students enrolling in the school is much higher than the school can afford, therefore support of parents has been taken as a criteria that their children is selected to study at the school.
  - Parents also support in financial ways. As a private school (does not belong to the community) therefore parents have to partly pay for their children to study at school which is not a problem so far.
  -

- Dreschvitz
  - School open day: it is an annual event for everyone, such as new parents, children and community to get acquainted with the school philosophy and practice.
  - Christmas party: open event for everyone, but the parents are not participating
  - No fence school: open to the neighborhood to visit and spend time.
  - Functioning as a meeting point for parents to exchange and communicate
- Putbus
  - Dance Theater “Animal Conference” for this year, in an old theater house in Putbus which attracted local attention and gained popularity. The close neighbourhoods might not interact a lot, but people from Putbus visit this event.
- School Network exist for Free school Ruegen to communicate and exchange with other schools.

Successful stories:

1) One parent mentioned that, 2 of her daughters are studying at school, 7 and 9 year old, go to school motivated every morning. They learned how to plant vegetable from school and they came home to teach their parents and build a vegetable garden at home, knowledge transferred.
2) One teacher is passionate about bee-keeping, after discussing with the school community, she got support to set up bee-haves in the school garden and now there are 4 colonies. This is a good sample of how teacher pursues and realizes their own passion by meeting the interest of the children in the school.
3) Carpentry workshop was enlarged based on learner’s requirement.
4) Earth wall in the glass house built from recycled materials, were designed and constructed by the learners.

Challenges

This section describes some major challenges teachers and administrators face in running the school.

1) It was mentioned by the principle of the school that, there is limited staff in the school, for example, a teacher called Momo is two years away from retiring. This will mean that, replacement will be possible as soon as possible. Another similar situation is that, a teacher named Heike is leaving in 1 year to found an energy cooperative. According to her, leaving the school is not linked to any problem but clarify that her departure was out of passion to set up energy cooperative.
2) As an alternative school with no fence, the idea is to have more meaningful interaction with the close neighbourhood.
3) They are still experiencing critical auditing and questioning from the local government regarding the financial and pedagogic issue.
4) The overall performance and competence of the learners in the next educational level, are still concerned.

CONCLUSION AND RECOMMENDATION

The short study informs us about ESD in Free school Ruegen, regarding the state of ESD in the school, the challenges and way forwards. Interesting findings were identified such as sustainable school activities and the continuous success stories that

come with it. However, there is still room for improvement, therefore, two critical recommendations were outlined for the study. It is important to occasionally organize field trips to other countries to embrace more international diversity and engage community in the process of ESD in schools. This will strengthen and increase the overall awareness of ESD in school consequence in the community.

We hope in the future the Free School Ruegen will grow to be more international in terms of its teachers, learners and school trips, this will enable the school and its students to learn and realise their impact on the global community.

Building the future generation to become responsible global citizens

S. M. Mehedi Ahsan

International Alumni Summer School on Education for Sustainable Development – Sharing and Linking International Best Practice Approaches was organized by the Alumni Network for Ecology, Sustainability and Conservation (ANESCo), University of Greifswald and STUBE Berlin Brandenburg Development Education Programme from 01-11 May 2019. The Summer School was hosted at the University of Greifswald and in the Island of Vilm located in the Federal State of Mecklenburg – Western Pomerania in the Northern Coastal part of Germany and was financed by the German Academic Exchange Service (DAAD) of the Federal Government of Germany. I had the opportunity to be part of the event as one of the 35 Alumni from 24 different countries who belong from Asia, Africa and Latin America and have studied International Master Programmes from different German Universities with focus on broader areas of Sustainable Development.

The primary objective of the summer school was co-learning the theory and practice of “Education for Sustainable Development” (ESD) with special focus on schools, Higher Education Institutions and Protected Area Information Centers. The entire 10days program was designed with in-house learning sessions, presentations, workshops and outdoor activities including visiting different parts of Greifswald City, the University of Greifswald itself, several schools and the Protected Areas in the Island of Rugen and Vilm which is Germany’s oldest natural reserve and one of the core areas of the South-East Rugen biosphere reserve.

One of the major highlights of the summer school was to come across Karl-Otto, a 9 year old boy who is studying in class III and visiting his school ‘Freie Schule Rügen’. Karl-Otto only knew about floods, disasters and Rana Plaza story of Bangladesh as like other German pupils. After chatting a while, I was thoroughly impressed by his talent and smartness and asked him what do you want to become? Very confidently he replied that he would like to be a Politician and be a representative in the Parliament of his state government. It was very thought provoking for me since any contemporary Bangladeshi student would have replied either to be a Doctor or Engineer! I was so impressed that I went on to interview to his headmaster, other teachers and administration of this school. I learnt that, not only Karl-Otto but all the children are being brought up independent and responsible global citizens. I was curious to know how the education system is organized in the school and what are the differentials from the system of education back in Bangladesh. Was impressed by his talents and smartness and asked what do you want to be in your life? Very confidently he replied that he would like to be a Politician and be represented in the Parliament of his state government. This was a real thought provoking for me as any Bangladeshi student would say - Doctor or Engineer! very beautiful natural landscapes and 06 seasons

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I was so impressed and: interviewed his headmaster, other teachers, administration and had a tour to the campus. Lessons are organised in totally different fashion here. Some of the attached pictures shows that all diverse part of culture and living societal elements are integrated in the curriculum. All the children are respected equally, the teachers don't teach but work with the students - Learning by Doing and mutually as teachers are also learning new things from students!

Can we not produce confident generations like Karl-Otto in Bangladesh?

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How is the education organized in the Freie School Rügen?

The Free School Rügen was established in 2003 by some pregnant mothers who wanted to ensure quality education for their upcoming children. Currently there are 132 children studying in Free School Rügen and it offers education for class One to Six where the age group is from 6-12 years of old. The learning groups are mixed-aged and are undertaking different subjects. Each of the group is formed with maximum of 15 children and for each group one teacher is assigned. The school and its teachings are self-organized which involves learners, teachers, parents and is learner-centered. The school has unique evaluation method – there is no first or second position in the class! The children evaluate themselves and then the teachers screen and align with their own assessment. If there are any major deviations then the teacher has a discussion with the children and then reaches a conclusion for further development. 70% of the school is financed by the Federal State Government and the remaining 30% costs are borne by the parents and the school itself.

One of the unique features of the school is there are more than 20 extra-curricular courses which includes music, theater, dance, pottery, art, sport-exercise, weaving, making pottery, carpentry, tailoring, printing, gardening etc all integrated with the main curriculum and each of the children are taking at least two of the extra-curricular courses. The curriculum is in line with the standards. Besides learning 'reading, writing and arithmetic' the students are also learning about the society, politics, nature, environmental protection, ecology and sustainability by participating in different practical sessions in co-working modalities. The students are trained to acquire social skills and cultural techniques by harnessing the diversity of cultures and their importance and develop interest and understanding for cultural diversity of people and their religious traditions. The education system promotes creativity and emotional support for personality development, strengthens self-esteem and has positive effects on both cognitive performance and social behavior. The artistic approach offers a variety of possibilities for presenting and processing complex situations. Every calender year, the school organizes public events where the performances of the children are showcased. The school also integrates the learning with state of art ICT techniques and foreign language – i.e. English from class one onward.

In the afternoon, the children work on practical topics with trained and experienced instructors. There are plenty of spaces around the school and the school premise has well equipped workshop rooms, music and theater rooms along with gardens. The workshops cover biodiversity and nature conservation, protection of environment, sustainable waste management, cultivating the fruit trees, harvesting and processing seasonal fruits and vegetables along with regional organic food, building infrastructures which include designing and construction of building with willow branches, clay buildings, designing a school garden etc.

The main motto of Freie Schule Rügen is 'school for all'. The school authority ensures an enabling environment to respect the identity of each individual and focuses the development of individualized learning biographies of each child. The priorities are in the field of mental development, socio-emotional development and learning to help children to become self-confident and empowered people who actively and creatively shape their environment. The school offers space for discovery learning, holistic acquisition of learning content and its sustainable consolidation. It provides time and space for leisure and recreation, for individual design and research as well as the common arguing and laughing. These are the foundations for a (school) own culture of living together to build the confidence of children to stand on their own feet and not be dependent on any outside leadership during their life.

The unique education system considers children as independent personalities and recognises that they have an inner blueprint and they follow their individual experience of the world, their own ideas, interests and perspectives, communicate with their environment and express their needs. A child is particularly receptive to suitable suggestions from the environment and is particularly absorbed in their activities.

All the teachers of Freie Schule Rügen clearly understand that children need love and respectful relationships. The teachers work on individual relationships with each child and give the confidence that they have real interest in her/him, trust in her/his own development. At the same time, this love and care always respects the autonomy of the child. In such a connection, peaceful dealings between teachers and students and students with nature are experienced and realized.

The central concern of Freie Schule Rügen is open and self-determined learning with all the senses, which seeks direct contact with the subject of learning wherever and however possible. Self-directed and self-responsible work is the basic principle of all learning. It contributes greatly to further developing and promoting the children's natural curiosity and joy of discovery in their everyday life. The concept of Sustainability is well integrated holistically the curriculum of the Free School Rügen which encourages and motivates each of the children to be a responsible global citizen in the future.

Can we learn something from them?

Although socio-political and economic structure of Bangladesh is very different than Germany, this should not be an excuse that nothing can be learnt from them. The current education system in Bangladesh is quite handicapped with wrong policy decisions, poor administration and management, inadequate infrastructure, qualification of teachers and the quality of teaching being below par. In addition to that, Sustainability aspects are not customized in our education curriculum. So far our education curriculum does not recognise different requirements of the children, an individual approach in the form of far-reaching distinguished measures are necessary from the very beginning. All differentiated measures need to be understood and different learning prerequisites, inclinations and ways of learning have to be considered in reforming the current education curriculum of our schools in order to peruse a future with informed generation.

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Plastic Cups? No thanks! – A Small Piece of Inspirational Story

Written by: Rosane Inês Chapiewsky

English translation: Seyeon Harita Jeong

I would like to share my experience in this text. It is a personal anecdote regarding my attempt to convince my students not to use plastic cups. The text consists of illustration about my workplace and the recent environmental initiative. I also add some remarks at the end.

I am a Brazilian who work at a big German company in Southern Brazil as a German teacher. Living in Germany for more than two years earlier, I became more conscious about waste management; To be more specific, about how to recycle garbage more and better. Since that time, I seldom use plastic bags although plastic usage in daily life is widespread in Brazil. Every time I take purchased goods just with my bare hands or put them directly into my backpack, I witness surprised reactions of store cashiers.

For the last two years, I have also been bother often by my colleagues who use plastic cups. Many workers use single-use cups made out of plastic more than once even in a single day. Only some people have a habit of carrying their own cups.

When I came back from the ANESCo Seminar in May 2019, I was highly motivated to do something for a positive change. I soon figured out that I could not do so much alone, but I could possibly influence at least my students to raise their awareness on sustainability issues.

That's when I came up with the idea to encourage my students to stop using plastic cups. My chosen tool was a cake. A piece of cake goes well with a good cup of coffee as well as with a well-brewed cup of tea. I baked four times of cakes and twice of biscuits and brought them to work.

So, here comes the trick: my students were asked to bring their own cups to my English classes. Then we talked about environmental issues. We discussed different sustainability issues that affect us such as recycling. At the end, we agreed as such: anyone who wants to enjoy my cake should leave a reusable cup in the office and use it every day.

Nowadays, when I walk into the office kitchen, my students are eager to show me their cups laying in there. If I notice the change first, I joyfully give them a compliment as an incentive. My plan worked out!

Moreover, this small action motivated other workers as well, and the movement spreaded out. But this plastic discussion was not necessarily new to the company: The headquarter office in São Paulo was contacted and we were told that the abolition of plastic cups had been already suggested before. This time we had to wait for an executive’s official response. The role of money in this campaign had to be importantly taken into account.

Recently, we received a report that the headquarter decided to adopt plastic cup abolition, which will be in effective from this October. When the company celebrates its birthday, each employee will get a reusable cup and a bottle as a souvenir set. There will be no more single-use plastic cup even for guests.

This way, in Blumenau, where I work, we save more than 3,000 cups every month! Considering potential changes in other branches throughout Brazil, it has actually much bigger impacts.

It cannot be better – I am overwhelmed by what has been happening so far – but it still makes me wonder why big global companies do not bring over their positive customs from their countries of origin (such as an existing recycling policy in German branches) in the first place.

Finally, I dare to say that I am proud of myself. My little action alone did not trigger all these changes, but it surely came at the right time and gave a final good push.

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Links:

https://www.un.org/sustainabledevelopment/hunger/

https://www.ohchr.org/en/issues/SDGS/pages/the2030agenda.aspx

https://www.greens-efa.eu/en/article/event/making-globalisation-work-for-the-sustainable-development-
goals/ https://www.ohchr.org/en/issues/SDGS/pages/the2030agenda.aspx

Endnotes:

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i Thomas Hoffmann and Hannes Siege, ESD Expert Net: What is Education for Sustainable Development (ESD)?

[ii] UNESCO: Education for Sustainable Development Goals Learning Objectives. Paris 2017, p. 10

[iii]Presentation by Dr Lutz Möller, Deputy Secretary-General German Commission for UNESCO: Education for Sustainable Development in Germany, ANESCo Project Seminar „Education for Sustainable Development – Linking and sharing international best-practice approaches“, Greifswald, 4 May 2019

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