

- 1 NO POVERTY
- 2 ZERO HUNGER
- 3 GOOD HEALTH AND WELL-BEING
- 4 QUALITY EDUCATION
- 5 GENDER EQUALITY
- 6 CLEAN WATER AND SANITATION
- 7 AFFORDABLE AND CLEAN ENERGY
- 8 DECENT WORK AND ECONOMIC GROWTH
- 9 INDUSTRY INNOVATION AND INFRASTRUCTURE
- 10 REDUCED INEQUALITIES
- 11 SUSTAINABLE CITIES AND COMMUNITIES
- 12 RESPONSIBLE CONSUMPTION AND PRODUCTION
- 13 CLIMATE ACTION
- 14 LIFE BELOW WATER
- 15 LIFE ON LAND
- 16 PEACE AND JUSTICE
- 17 PARTNERSHIPS FOR THE GOALS



# TEACHING THE SUSTAINABLE DEVELOPMENT GOALS

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# I. EDUCATION IS THE KEY TO A SUSTAINABLE WORLD

The world comes closer and closer, not only due to globalization, trade and economics but also due to global consequences like migration, terrorism, conflict, poverty, loss of biodiversity, degradation of soils and climate change. This means that the 21st century is very much characterized by wider and deeper interconnectedness of many global challenges.

To meet these challenges, the United Nations (UN) have set up many mechanisms — multilateral environmental agreements, global conventions and commitments, conferences, campaigns, programmes like the “United Nations Environment Programme” (UNEP) and “United Nations Development Programme” (UNDP), UN-days and goals such as Millennium Development Goals (MDGs) and recently Sustainable Development Goals (SDGs). It has, indeed been noted, that the development of the SDGs resulted from the largest and most wide-spread public participation process in history.

Early responses, at a global level, to the severe ecological challenges included the “UN Conference on the Human Environment” in Stockholm, Sweden in 1972. Twenty years later, the “UN Conference on Environment and Development” took place in Rio de Janeiro, Brazil which recognized that the environment and development are two sides of the same coin. They therefore have to be dealt with in an interrelated manner and can no longer be isolated as was previously the case.

By the turn of the century world leaders realized that their aims to reduce poverty and achieve an enhanced standard of living could not be met. In 2000, the UN General Assembly adopted the Millennium Declaration. The Millennium Development Goals (MDGs) which were adopted at the turn of the millennium were perhaps a first step towards a common and comprehensive effort to address development challenges by the world community. The declaration endorsed a set of eight goals, known as the Millennium Development Goals (MDGs) which were to be achieved by 2015. The agreed common aims were to:

1. eradicate extreme poverty and hunger
2. achieve universal primary education
3. promote gender equality and empower women

4. reduce child mortality
5. improve maternal health
6. combat HIV/AIDS, malaria, and other diseases
7. ensure environmental sustainability
8. develop a global partnership for development

These efforts acknowledged that the challenges humanity faces today cannot be addressed in isolation or at a local level but need to be engaged globally. The Millennium Declaration, with their targets and indicators, have inspired development efforts and helped set global and national priorities. However, although the MDGs emphasized poverty eradication they gave little attention to environmental aspects and sustainability concerns. They also focused on “developing countries” and implied that “developed countries” did not require improving on any front. This is unfortunate, because the high impact that so-called “developed countries” exert on the planet certainly needs attention. Though the MDGs achieved much progress enormous problems remained.

In 2002, during the “World Summit on Sustainable Development” held in Johannesburg, South Africa, it was agreed that sustainable development is essential for people, planet and prosperity. Inspired by this, the “UN Decade on Education for Sustainable Development” was established in 2005 and this continued until 2014. The “UNESCO Global Action Programme on Education for Sustainable Development” was then formulated and this will be in effect until 2019 and is expected to be continued for a further five years after that.

The next challenge was to make development really sustainable, for both the developed and the developing countries. What is required is for every country to take responsibility to reach the committed goals and targets. As a conclusion, it was felt that the goal driven mechanism of the MDGs should be continued. The “Agenda 2030” containing the Sustainable Development Goals (SDGs) were then framed and unanimously adopted by the 193 member states of the United Nations on 25th September 2015. Compared to the eight MDGs, we now have 17 SDGs and 169 targets.

The agreed common aims of the SDGs are now:

- Goal 1: No Poverty
- Goal 2: Zero Hunger
- Goal 3: Good Health and Well-being
- Goal 4: Quality Education
- Goal 5: Gender Equality
- Goal 6: Clean Water and Sanitation
- Goal 7: Affordable and Clean Energy
- Goal 8: Decent Work and Economic Growth
- Goal 9: Industry, Innovation and Infrastructure
- Goal 10: Reduced Inequalities
- Goal 11: Sustainable Cities and Communities
- Goal 12: Responsible Consumption and Production
- Goal 13: Climate Action
- Goal 14: Life below Water
- Goal 15: Life on Land
- Goal 16: Peace, Justice and Strong Institutions
- Goal 17: Partnerships for the Goals

Importantly, social, economic and political aspects have all been given enough emphasis in the way the SDGs have been formulated. Most importantly they are applicable to both the developed and the developing countries. Every country which joined “Agenda 2030” now has to make efforts towards realizing these goals with respect to their own particular context. The SDGs are a vision for global development and transformation and education for sustainable development (ESD) is a key measure that can catalyse and enable the SDGs to be realized. ESD is primarily a systemic, problem solving, future and action-oriented approach to social change for a more sustainable world. With this overarching goal in view, the ESD Expert Net is proud to present and share “Teaching the Sustainable Development Goals”, a resource to engage learners, of all ages, with the SDGs. This task is particularly important since the SDGs capture the global challenges succinctly and effectively.

“Teaching the Sustainable Development Goals” provides information about the SDGs, their background, the global reality and offers assistance and suggestions on how to teach and support learning for sustainable development. Each SDG-chapter in this book opens with a note that explores the nature of the challenge and its criticality in achieving sustainable development. Many of the challenges are not new to us and there have been efforts to alleviate them. Seventeen such relevant and meaningful efforts are offered in this resource as “stories of change” to illustrate how every effort matters and that there is something to learn from it. These stories have been taken from the four ESD Expert Net member countries: Germany, India, Mexico and South Africa.

As ESD professionals we believe learning and awareness of the various facets of each SDG is in itself essential for fostering a deeper and wider understanding of the global problems. This means recognizing the inter-linkages and interdependencies, fostering the necessary skills and competencies and empowering ourselves, teachers and learners to take action. Undoubtedly education is one of the most important instruments with which to realize the SDGs.

You, the teacher, may wonder why we bring the SDGs to you. This is to familiarize you with the SDGs and enable you to facilitate learning about, learning through and learning for the achievement of the SDGs. You are well-placed to contribute and help us reach a critical mass, which is needed to make transformation real. Do not think and feel that you have to rescue the world on your own! Rather join us and many other teachers from around the world, in this large-scale cooperative endeavour. Through this we can all realize that the global challenges can be met through the contributions of many individuals and institutions. In this sense, education is a driver of this global transformation. Never in history has our world needed this work as much as it does now! Now is the time for informed and sustainable action.



ESD Expert Net Meeting in Pretoria, South Africa, in 2014

## II. THE ESD EXPERT NET

We, the ESD Expert Net members, are convinced that joint learning and action beyond national borders and continents is at the heart of sustainable change. Only through international cooperation can we reflect on and think about ESD and realize the wide-spread, innovative ideas and practical actions towards a more sustainable future.

We are committed to ensuring that ESD is anchored in all areas of formal and informal education systematically and enduringly. Teachers, education experts, multipliers, trainers are all engaged in this work and we offer them tools that are needed to integrate ESD into their practices. We advise policy and civil society on expedient approaches and implementation strategies thus improving capacity to promote knowledge and competencies for sustainable development.

As a key partner of UNESCO in the implementation of the “Global Action Programme on Education for Sustainable Development”, we support the endeavours: “To initiate and intensify activities at all levels and in all areas of education to accelerate the process towards sustainable development” (UNESCO Roadmap for Implementing the Global Action Programme on Education for Sustainable Development, 2014).

The ESD Expert Net partnership includes ESD experts from all four countries and was established in the year 2009. The operational anchor of the ESD Expert Net in Germany is Engagement Global on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ).

### ESD Expert Net in brief:

#### Partner Countries:

German, India, Mexico and South Africa

#### Activities:

- ESD Training of Trainers (ToT) to train ESD multipliers within the national educational structures
- Mentoring for ESD-Leadership for young ESD professionals
  - Six months blended learning course
  - National workshops
  - Mentoring supporting for the implementation of change projects
- Development of Learning and Teaching Material on ESD
  - Concept papers
  - Teaching the Sustainable Development Goals Projects on the practical implementation of ESD, e.g. Go! Global

### Founding network partners:

#### India:

- Bharati Vidyapeeth University (BVIEER); Institute of Environment Education and Research
- Centre for Environment Education (CEE)
- The Energy and Resources Institute (TERI)
- National Council of Education Research and Training (NCERT)

#### Mexico:

- University of Veracruz, Institute of Research on Education
- Ministry of Education, State of Puebla
- Ministry of Environmental and Natural Resources (SEMARNAT)
- EC Ambiental S.C., Environmental Education and Training

#### Germany:

- University Duisburg-Essen, Faculty of Biology, Centre for Teacher Education
- Leuphana – University of Lüneburg; Institute for Environmental and Sustainability Communication (INFU)
- Pre-Service Teacher Training Centre Karlsruhe representing the Ministry of Education Baden-Württemberg
- Ministry of Education and Training, State of Hesse
- Verbund Entwicklungspolitischer Nichtregierungsorganisationen Brandenburgs e.V. (VENROB)

#### South Africa:

- Department of Basic Education
- Department of Environmental Affairs
- University of South Africa (UNISA)
- Rhodes University, Faculty of Education, Environmental Learning Research Centre (ELRC)
- Wildlife and Environment Society of SA & SADC-REEP (WESSA)

Many more partners have joined the network in the last years.

You can find more information on the ESD Expert Net on our website:

<http://esd-expert.net>

### III. WHY “TEACHING THE SUSTAINABLE DEVELOPMENT GOALS”?

Nelson Mandela was convinced that “Education is the most powerful weapon which you can use to change the world”. And, without any doubt, we cannot continue in the same way as we have in the past few decades. The world’s life-supporting resources are being depleted at a faster rate than ever before! We have to change our practices and the world as a whole towards a more sustainable future. To give us an idea about the dimensions of change, the General Assembly of the United Nations announced the “Agenda 2030”. Their seventeen Sustainable Development Goals describe the frame of our common global efforts. Within each goal education holds a key position.

Of course education and learning do not function in isolation. In a traditional sense they help to understand the world one lives in and prepare all for a job market with both intrinsic and instrumental values. What are the many roles of education in sustainable development? Its purpose is transformative in nature, in the sense that it should widen the world views, question “unsustainability”, and build competencies to address global challenges and be accommodated into a global system. Beyond this education for sustainable development means integrating the “future” as a specific dimension of our learning activities and teaching. How to build a sustainable future must play a central role in education processes. Globalization, which is sometimes merely seen as global capitalism, has inevitability about it. Whether we like it or not, we live in a highly interconnected and interdependent world. And, it is now well recognized that 21st-century challenges are global in nature and require cooperation beyond national boundaries. In a sustainable development sense we have to see ourselves as “citizens” and respond to the global challenges. In fact, global challenges have expanded the very notion of citizenship itself!

There is an increasing recognition of the importance of global citizenship. It was a priority in UN Secretary General’s Global Education First Initiative (GEFI, 2012). Target 4.7 (see inset) of the SDG 4 (Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all) identifies global citizenship as a means to achieve sustainable development – acquiring the knowledge and skills needed to promote sustainable development. The instrumental nature of global citizenship in achieving sustainable development is explicitly stated. In fact, the essence of the SDGs and the importance of education are captured in Target 4.7. Educational efforts have to be expanded over the next 15 years to ensure that the 17 SDGs are achieved. Such has been the priority of education for sustainable development. To support this effort UNESCO has implemented the Global Action Programme (GAP), where ESD offers the key processes.

The objective of this book is learning about, learning through and learning for the SDGs and the associated SDG targets. The resource makes the SDGs accessible through the background and illustrative stories of change. It provides competences and suggests teaching ideas that support cross-curricular learnings. This resource offers many fascinating examples of education methods and activities towards sustainability. It is a reminder of the creativity of our times; it gives hope and is a positive experience that needs to be shared by all. Most importantly it is to be shared and applied by all teachers who have faith in a more sustainable future.

#### 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.


# IV. HOW TO USE "TEACHING THE SUSTAINABLE DEVELOPMENT GOALS"?

The intention of this booklet is to give teachers and multipliers, in the context of ESD, an idea about the "Agenda 2030" and the 17 Sustainable Development Goals. To concretize the SDGs each goal is accompanied by a number of targets – 169 in total. These targets describe what has to be achieved in which dimensions within the 15 year period of the "Agenda 2030" process.

This booklet intends to support you as teachers or multipliers in the field of ESD so as to adjust your teaching in the context of "Agenda 2030". Each of the SDGs is described, explained and operationalized in a way, so that you can use it directly. Each SDG has its own chapter. The guidance graphic below gives an overview of the various parts of an SDG unit.

**1.**

**1. END POVERTY IN ALL ITS FORMS EVERYWHERE**



**2.**

**3.**

**Why this goal?**

Eradicating poverty in all its forms remains one of the greatest challenges facing humanity. While the number of people living in extreme poverty dropped by more than half between 1990 and 2015 – from 1.9 billion to 836 million – too many are still struggling for the most basic human needs. About one in five persons in developing regions live on less than \$1.25 per day. High poverty rates are often found in small, fragile and conflict-affected countries. One in four children under the age of five, world-wide, have not grown to an adequate height for their age group. This demonstrates the levels of poverty and malnutrition that many young

likely to live in poverty than men due to unequal access to paid work, education and property. Progress has also been limited in other regions, such as South Asia and sub-Saharan Africa, which account for 80 percent of those living in extreme poverty. New threats brought on by climate change, conflict and food insecurity, mean even more work is needed to bring people out of poverty. The SDGs are a bold commitment to finish what we started, and end poverty in all forms and dimensions by 2030. This involves targeting the most vulnerable, increasing access to basic resources and services, and supporting communities affected

Each unit is structured as follows:

- 1.** Official phrasing of the SDG
- 2.** Official Logo of the SDG
- 3.** "Why this goal?": a brief and focused introduction to the global challenge that explains the core problems and its dimensions, consequences and the required efforts can be found.
- 4.** The "Story of Change": illustrates actions for an aspect of the SDG. It serves two functions:
  - It covers the gap between the theoretical global data and the description of the goal.
  - It can be used as material for classroom teaching.

**4.**

**5.**

**Impact on SDG's**



**Story of Change**

**SEWA: Self Employed Women Association (India)**

Imagine you work from a poor community and a woman somewhere in India. You have four children and happen to be the primary bread winner of your family. What if you have very few skills and fail to get into employment that would meet your needs. In all probability you are forced to work as a domestic worker, a hawker, a street vendor or a construction laborer. These options earn very little or no money. This means that you are self-employed and work in the informal sector. So far so good. What if you were exploited, however? This could mean that you are made to work long hours, are paid less than you are due, or even paid irregularly and worse, and are paid

The story is an opportunity to reflect on a good practice example. It corresponds to the global challenge of the SDG and how it can be a source of inspiration for one's own context. Where possible success stories are offered which describe the activities of individuals or small groups that are engaged in realizing the targets. These have been set up for meeting global challenges at a local level.

- 5.** The big logo marks the SDG in focus, while the smaller ones indicate related SDG-processes, which are illustrated and supported in the context of the "Story of Change".







## V. TEACHING THE SUSTAINABLE DEVELOPMENT GOALS

Education for sustainable development (ESD) is about bringing together of a wide variety of educational strategies aimed at addressing challenges at both a local and global level. A strong action component is essential to realize this objective. Traditionally, education focused on acquiring knowledge and the “action” or “doing” facets of learning were neglected. ESD is about functional learning, collaborative dialogue and reflection and has implications for developing key competencies. The various concepts for education for sustainable development are based on a competencies approach. Recognizing that the limited set of knowledge and abilities acquired by former generations are no longer adequate to cope with a globalized world, scientists and administrators alike have realized that learning and teaching need to be broadened so as to adopt a more competences-oriented approach. The essence of this concept of ESD is to define competencies as the active engagement of knowledge and values. Further-

more, it must be realized that competencies cannot merely be communicated, but have to be developed by an individual or group. If we accept these two central findings on the discussion on competencies, it becomes obvious that this will have an enormous impact on the reality of schooling in general and the arrangement of individualized learning processes in particular.

In an effort to identify the crucial competencies needed by individuals to enable them to achieve a more sustainable lifestyle the core question becomes; which specific competencies are needed and should be developed by learners?

After more than two decades of international dialogue and debate a global consensus on the competencies learners should develop to contribute to sustainable development have been agreed upon.

These key competencies are:

Key competencies	
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.
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.
Integrated problem-solving competency	the overarching ability to apply different problem-solving frameworks to complex sustainability problems and develop viable, inclusive and equitable solution options that promote sustainable development, integrating the above mentioned competences.
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.
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.

# 1. END POVERTY IN ALL ITS FORMS EVERYWHERE



## Why this goal?

Eradicating poverty in all its forms remains one of the greatest challenges facing humanity. While the number of people living in extreme poverty dropped by more than half between 1990 and 2015 – from 1.9 billion to 836 million – too many are still struggling for the most basic human needs. About one in five persons in developing regions live on less than US\$1.25 per day. High poverty rates are often found in small, fragile and conflict-affected countries. One in four children under the age of five, world-wide has not grown to an adequate height for the particular age group. This demonstrates the levels of poverty and malnutrition that many young people live with.

Globally, more than 800 million people are still living on less than US\$1.25 a day, many lacking access to adequate food, clean drinking water and sanitation. Rapid economic growth in countries like China and India has lifted millions out of poverty, but progress has been uneven. Women are more

likely to live in poverty than men due to unequal access to paid work, education and property. Progress has also been limited in other regions, such as South Asia and sub-Saharan Africa, which account for 80 per cent of those living in extreme poverty. New threats brought on by climate change, conflict and food insecurity, mean even more work is needed to bring people out of poverty.

The SDGs are a bold commitment to finish what we started, and end poverty in all forms and dimensions by 2030. This involves targeting the most vulnerable, increasing access to basic resources and services, and supporting communities affected by conflict and climate-related disasters.

## Reference:

<http://www.undp.org/content/undp/en/home/sustainable-development-goals.html>  
<http://www.un.org/sustainabledevelopment/sustainable-development-goals/>

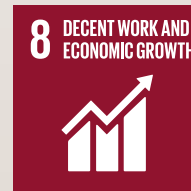


## Story of Change

### SEWA: Self Employed Women's Association

Imagine you were from a poor community and a woman somewhere in India. You have four children and happen to be the primary bread winner of your family. What if you have very few skills and fail to get into employment that would meet your needs. In all probability you are forced to work as a domestic worker, a hawker, a street vendor or a construction laborer. These options earn very little or no money. This means that you are self-employed and work in the informal sector. So far so good. What if you were exploited, however? This could mean that you are made to work long hours, are paid less than you are due, or even paid irregularly and worse, and are paid nothing at all. What if you were harassed for selling vegetables on the streets? Remember, that until recently there were no laws to protect those in informal employment. These are real challenges for a poor woman and inhibit her from getting into decent employment that can actually help her escape poverty through her hard work. Evidently, poor people need capital or an ability to raise capital from savings, credit and insurance to have incomes that meet their needs and also allow them to purchase or acquire assets like a sewing machine, a house, cattle, a pushcart etc. This reduced the risk of relapsing into poverty for a variety of reasons. Women needed to have knowledge, information and skills of the trade and management to succeed in the market. They needed security in terms of health and child care to be able to ward off risks. Last but not the least, they needed collective strength to be heard and address their own needs in a meaningful way.

## Impact on SDGs





Studies show that women could increase their incomes through gainful employment due to credit and acquisition of skills and capacities. All this, ultimately, helped women find more self-esteem and confidence to conduct their businesses more effectively.

But today, there are indeed many such women! And they earn more than 12,000 INR a month! How was that possible?

Through SEWA, a collective of women, founded in 1972 in Ahmedabad, a city in the western State of Gujarat in India by Ela Ben Bhatt women are finding better employment prospects. Ela Bhatt started SEWA with women who worked outside the textile mills with no formal source of income. The association now has nearly two million members. SEWA's main goals are to organize women workers for full employment and self-reliance and lift them out of their poverty. Women had faced a variety of problems – wages were suppressed, there were less opportunities of full time and continuous employment and employment conditions were not always favourable.

SEWA carefully examined the kind of support that women need to reach a state of full employment. It looked at an integrated approach which involves

1. Capital
2. Capacity
3. Social security
4. Collective and organized strength.

Evidently, poor people need capital or an ability to raise capital from savings, credit and insurance to have incomes that meet their needs and also allow them to purchase or acquire assets like a sewing machine, a house, cattle, a pushcart etc.

### Useful links

Website of the Self Employed Women's Association (SEWA):  
[www.sewa.org](http://www.sewa.org)

SEWA on Asian Initiatives-website:  
<http://asiainitiatives.org/health-initiatives/sewa-ahmedabad/>

This reduced the risk of relapsing into poverty for a variety of reasons. Women needed to have knowledge, information and skills of the trade and management to succeed in the market. They needed security in terms of health and child care to be able to ward off risks. Last but not the least, they needed collective strength to be heard and address their own needs in a meaningful way.

### Reflect

- ✦ What are the four components identified by SEWA to address poverty?
- ✦ Did SEWA's initiatives address "income poverty" or „multidimensional poverty“?
- ✦ What would you propose to the government of your country by learning from the SEWA example for a poor community?
- ✦ What role can education and training play in enhancing the capacities of communities?
- ✦ Poverty is a classic chicken and egg situation. How did SEWA break this vicious cycle for women?

### I. Learning objectives

- ✦ The learner examines and analyses the causes and impacts of poverty.
- ✦ The learner can compare and contrast the benefits of addressing either or both income poverty and multidimensional poverty.
- ✦ The learner is able to show sensitivity to the issues of poverty as well as empathy and solidarity with poor people.
- ✦ The learner is able to include poverty reduction, social justice and anti-corruption considerations in their activities.

### II. Achieved core competencies of learners

- ✦ Critical thinking competency
- ✦ Systems thinking competency
- ✦ Anticipatory competency
- ✦ Normative competency
- ✦ Integrated problem-solving competency
- ✦ Strategic competency
- ✦ Collaboration competency
- ✦ Self-awareness competency

### III. Ideas to teach

- ✦ Framing the issue of poverty in the local context
- ✦ Build scenarios
- ✦ Debate and discuss
- ✦ Engage with the local government and media





## 2. END HUNGER, ACHIEVE FOOD SECURITY AND IMPROVED NUTRITION AND PROMOTE SUSTAINABLE AGRICULTURE



### Why this goal?

Hunger is still one of the most urgent development challenges, yet the world is – according to the Food and Agriculture Organization of the United Nations (FAO) – producing more than enough food. Hunger is a dimension of poverty. Almost all hungry people are poor. One of the major causes of hunger is poverty itself. Today close to a billion people go hungry. Malnutrition affects almost one in three people on the planet. 60 per cent of the hungry are women. The challenge is to ensure that all have enough quality food to meet their nutritional needs for an active and healthy life.

One-third of food produced for human consumption is lost or wasted globally, which amounts to about 1.3 billion tons per year (FAO). Wasted food is a waste of labour, water, energy, land and other inputs that went into producing that food. This for a planet experiencing increasing water and land scarcity, soil, land and biodiversity degradation, a deteriorating natural resource base and more frequent and severe weather events.

To feed another two and a half billion people in 2050, food production will need to increase by 50

per cent globally and to nearly double in developing countries. The situation is complicated further by the impact of climate change.

Nourishing more people while nurturing the planet will be a monumental challenge, but it can be achieved by transforming food and agriculture systems, shifting to more sustainable agricultural practices, diversified consumption and production, improving governance and securing the political will to act.

### Reference:

<http://www.fao.org/sustainable-development-goals/goals/goal-2/en/>

<http://www.undp.org/content/undp/en/home/sustainable-development-goals.html>

<http://www.un.org/sustainabledevelopment/sustainable-development-goals/>

<http://www.thp.org/knowledge-center/know-your-world-facts-about-hunger-poverty>

<http://www.fao.org/food-loss-and-food-waste/en/>





## Story of Change

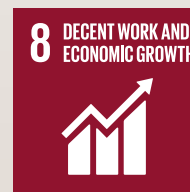
### Dabbawallas: The bridge between home-made food and hunger

“We are Dabbawala, (one, who carries the box), in the Indian city of Mumbai. We carry and deliver freshly made food from the customer’s home in a lunch box (Dabba) and deliver it to offices. It may sound simple, but it’s not. It is actually a highly specialized trade that has evolved in its current form over a century and has become integral to Mumbai’s culture. We are about 5.000 in number and deliver approximately 200.000 tiffin boxes every day.”

This initiative started some 125 years ago when one banker from the Parsi community wanted home cooked food delivered to his work place and a visionary Mr. Mahadev Bachche saw an opportunity and started this system with an initial group of 100 people.

In an Indian situation it is important to keep charges affordable for the majority of people. By organizing themselves into small and locally autonomous groups Dabbawalas have a rather flat organizational structure helping to keep costs low. Each Dabbawala person is treated as an autonomous entrepreneur and is free to negotiate with customers. Average customers pay about US\$10 per month for their services. The Mumbai suburban railway network is central to the operation of Dabbawalas which also contributes to lower costs compared to special road transport. The Dabbawalas deliver about 120 tons of food every day, of which 16 tons is left uneaten. In the

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same city, 200.000 thousand are hungry in the streets. How can this food get to the needy? The Happy Life Welfare Society came up with the idea of a sticker that says “Share”. Those willing to share the food, paste the sticker on it. The food from such lunch boxes is sorted out and distributed to the needy by volunteers. Another such initiative, started off by the Dabbawalas, is the Roti Bank. 300 Dabbawalas pick up the leftover food and distribute it among the needy after they finish their duties for the day. As they know every nook and corner of the city it is not difficult to find the needy – those living in the slums, on the roads, sick people and their families who come from other states.

The Dabbawalla-system supplies thousands of people with food, offers income and earnings for thousands more and even supports those who have nothing. The bicycle driven system also contributes to a more sustainable city and opens opportunities that strengthen local food markets.

### Reflect

- ✦ What are the key features of Dabbawalas as a model of food delivery?
- ✦ Think of a hunger situation in your country. What would you propose to the government by learning from the Dabbawalas example?
- ✦ Will the Dabbawala system cope with the challenges of a global city in the future?
- ✦ Is the Dabbawala system a key factor for sustainable urban development?

### I. Learning objectives

- ✦ The learner recognizes the physical and psychological effects of hunger and malnutrition on specific vulnerable groups.

- ✦ The learner communicates the connections between combating hunger and promoting sustainable agriculture.
- ✦ The learner is able to critically take on their role as an active global citizen in the challenge of combating hunger.
- ✦ The role of small scale food producers is important in achieving this goal.

### II. Achieved core competencies of learners

- ✦ Critical thinking competency
- ✦ Systems thinking competency
- ✦ Anticipatory competency
- ✦ Normative competency
- ✦ Integrated problem-solving competency
- ✦ Strategic competency
- ✦ Collaboration competency
- ✦ Self-awareness competency

### III. Ideas to teach

- ✦ Watch a video documentation about the Dabbawallas.
- ✦ Create a mind map on the Dabbawalla system.
- ✦ Check the transferability of the Dabbawalla system for your school/city.
- ✦ Research causes of food loss and wastage in your state or country.
- ✦ Build scenarios on the consequences of the failure of agricultural systems.

### IV. Ideas for your own practice

- ✦ Start a worm farm and use the vermi-compost to improve the soil and plant growth
- ✦ Support a non-governmental organization (NGO) that focuses on productive food security with donations and volunteer help
- ✦ Promote the concept of responsible food salvaging and redistribution. Lobby for more soil care policies at state level.

### Useful links

Video documentation “DabbaWalas – Amazing Meal Delivery in India”:

<https://www.youtube.com/watch?v=fTkGDXRnR9I>

Dabbawala on Wikipedia:

<http://en.wikipedia.org/wiki/Dabbawala>



## 3. ENSURE HEALTHY LIVES AND PROMOTE WELL-BEING FOR ALL AT ALL AGES



### Why this goal?

Since 1990 child mortality has been reduced. Maternal health has improved and the fight against HIV/AIDS, malaria and other diseases has been enhanced. Despite the progress, we should still consider that more than 6 million children die before their fifth birthday every year. Some facts and figures: Every day hundreds of women die during pregnancy or complications in child birth and 16.000 children die from preventable diseases. The aim by 2030 is to achieve universal health coverage and provide access to safe and affordable medicines and vaccines for all. Right now, we need to realize that:

- Globally, adolescent girls and young women face gender-based inequalities, exclusion, discrimination and violence. This puts them at an increased risk of acquiring HIV
- In many settings, adolescent girls' right to privacy and bodily autonomy is not respected, and many report that their first sexual experience was forced
- Children born into poverty are almost twice as likely to die before the age of five as those from wealthier families

- Children of educated mothers—even mothers with only primary schooling—are more likely to survive than children of mothers with no education.
- Maternal mortality ratio – the proportion of mothers that do not survive childbirth compared to those who do – in developing regions is still 14 times higher than in the developed regions
- Only half of women in developing regions receive the recommended amount of health care they need

In poor regions, the public healthcare system is often insufficient and the private system is too costly to afford. For these reasons some communities consider and adopt alternatives to main-stream medical assistance.

### Reference:

<http://www.undp.org/content/undp/en/home/sustainable-development-goals.html>  
<http://www.un.org/sustainabledevelopment/sustainable-development-goals/>





## Story of Change

### The guardians of health: Tosepan Pajti Programme

We are looking for a guardian of health for our community! Would you like to be one?

A guardian of health is someone who observes the community and identifies sanitation problems and who informs and teaches people about good practices for daily life, so that the community can improve its standard of living and prevent future health issues.

This kind of action is an example of what has been developed for the past 40 years in the “Tosepan Titataniske” cooperative, which means “united overcome” in the Nahuatl language. The cooperative is active in Cuetzalan, a town in Mexico’s Northeastern Sierra of Puebla. Prior to the implementation of the guardians of health they had to solve their health issues only by coping with the shortage of staple food for their families. This dissatisfying and unsuccessful situation led in 1977 to the decision to form a cooperative and integrate mostly Nahuas and Tutunakus native groups.

Once they had formed a community supply network, they started working in other fields, such as healthcare services, to achieve a life of higher quality. Due to the insufficient services in the region, they created “Tosepan Pajti”, which means “medicine for all” in Nahuatl. “Tosepan Pajti” is a cooperative that is part of the wider cooperative “Tosepan Titataniske”, which seeks to bring healthcare services and improve the quality of life of families in the region. The programme offers support in the prevention of diseases and gives primary care to those who require it.

In 2009, the cooperative “Tosepan Pajti” started looking for guardians of health and trained them in first aid and familiarised them with community health technicians including the planting of medici-

## Impact on SDGs



nal herbs and making syrups, ointments and other medicines. They then established small health houses with the equipment and these became the operation base for doctors and guardians.

What do you think? Would you like to be a “guardian of the health” for your community?

### Reflect

- ✦ Why is health especially important for the quality of life?
- ✦ How should a healthcare system be implemented?
- ✦ How is poverty related to an insufficient healthcare system?
- ✦ Is it possible to transfer the cooperative strategy to your own city?

### I. Learning objectives

- ✦ Understand the importance of health
- ✦ Understand the various contributing factors to health and well being
- ✦ Comprehend the impact of an insufficient healthcare system
- ✦ Identify the main components in healthcare systems to maintain and improve health in a community
- ✦ Learn about alternative, community based health care systems
- ✦ The learner knows conceptions of health, hygiene and well-being and can critically reflect on them, including an understanding of the importance of gender in health and well-being.
- ✦ The learner is able to interact with people suffering from illness, and feel empathy for their situation and feelings.
- ✦ The learner is able to include health promoting behaviors in their daily routines.

### II. Achieved core competencies of learners

- ✦ Critical thinking competency
- ✦ Systems thinking competency
- ✦ Anticipatory competency
- ✦ Normative competency
- ✦ Integrated problem-solving competency
- ✦ Strategic competency
- ✦ Collaboration competency
- ✦ Self-awareness competency

### III. Ideas to teach

- ✦ Creating a mind map on the local health and health care situation
- ✦ Identifying the core difficulties and problems
- ✦ Design a low cost, community based health-care system for their community
- ✦ Check in which way the targets could be related with the story of change

### IV. Ideas for your own practice

- ✦ Organize first aid training at work
- ✦ Develop helpful policies at home and work on driving healthy living
- ✦ Join in and contribute to campaigns that aim to reduce pollution in your region
- ✦ Test and evaluate indigenous knowledge for health and well-being.

#### Useful links

Website of Unión de Cooperativas Tosepan  
<http://www.tosepan.com/>

Tosepan Pajti on Facebook:  
<https://www.facebook.com/tosepan.pajti.98>

## V. Targets

### 3.1

By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births

### 3.2

By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births

### 3.3

By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases

### 3.4

By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being

### 3.5

Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol

### 3.6

By 2020, halve the number of global deaths and injuries from road traffic accidents

### 3.7

By 2030, ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes

### 3.8

Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all

### 3.9

By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination

### 3.A

Strengthen the implementation of the World Health Organization Framework Convention on Tobacco Control in all countries, as appropriate

### 3.B

Support the research and development of vaccines and medicines for the communicable and non-communicable diseases that primarily affect developing countries, provide access to affordable essential medicines and vaccines, in accordance with the Doha Declaration on the TRIPS Agreement and Public Health, which affirms the right of developing countries to use to the full the provisions in the Agreement on Trade-Related Aspects of Intellectual Property Rights regarding flexibilities to protect public health, and, in particular, provide access to medicines for all

### 3.C

Substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries, especially in least developed countries and small island developing States

### 3.D

Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks

## Personal Notes

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## 4. ENSURE INCLUSIVE AND EQUITABLE QUALITY EDUCATION AND PROMOTE LIFELONG LEARNING OPPORTUNITIES FOR ALL



### Why this goal?

Obtaining a quality education is the foundation to improving people's lives and sustainable development. Major progress has been made towards increasing access to education at all levels and increasing enrolment rates in schools particularly for women and girls are encouraging. Basic literacy skills have improved tremendously, yet bolder efforts are needed to make even greater strides for achieving universal education goals. For example, the world has achieved equality in primary education between girls and boys, but few countries have achieved that target at all levels of education.

- Enrolment in primary education in developing countries has reached 91 per cent but 57 million children remain out of school
- More than half of children that have not enrolled in school live in sub-Saharan Africa

- An estimated 50 per cent of out-of-school children of primary school age live in conflict-affected areas
- 103 million youth worldwide lack basic literacy skills, and more than 60 per cent of them are girls

Achieving inclusive and quality education for all reaffirms the belief that education is one of the most powerful and proven vehicles for sustainable development. It also aims to provide equal access to affordable vocational training, to eliminate gender and wealth disparities, and achieve universal access to a quality higher education.

### Reference:

- <http://www.undp.org/content/undp/en/home/sustainable-development-goals.html>
- <http://www.un.org/sustainabledevelopment/sustainable-development-goals/>





### Story of Change

#### The dental prophylaxis (tooth-cleaning) container in Inhambane

During a visit to Hamburg in 2015, medical and dental specialists of the School for Health Care, Hamburg, Germany together with nurses and carers of the Escola de Saude de Inhambane, Mozambique, developed a didactic concept for tooth-cleaning and thus a requirement catalogue for the design of the tooth-cleaning and primary tooth care station. According to the Mozambican partners, the station is to expand the education in Mozambique for tooth-care especially for children in primary school. The Escola de Saude de Inhambane, has a great interest in and commitment to dental health. In Mozambique, the consumption of sugar is high and this contributes to tooth decay. At the same time, dental care is not available for most Mozambicans.

The aim of the project is to train a specialist with qualifications in oral hygiene (basic tooth care) and to cooperate with the schools of the districts in the area of dental health. This is to detect and treat tooth damage at an early stage. For a country such as Mozambique, the dental health and education of the population is of paramount importance, especially since the country does not have enough qualified doctors for the foreseeable future. The dental health-care station is a desirable addition to their efforts to build small dental clinics in the province of Inhambane.

As Mozambique is closely aligned with the recommendations of the World Health Organization (WHO) in the structure of its health care system,

### Impact on SDGs



the health system is structured in a graduated manner, and nurses and technicians have a much wider range of tasks than, for example, nursing staff in Germany. The dental clinic was constructed with Canadian assistance and is to be used as training site. The province of Inhambane is responsible for the implementation in the field of dentistry. Concerning the training of health care workers Inhambane functions as a model province for the whole of Mozambique. The container where the clinic is located provides vocational training for young people with disabilities. For this purpose, a cooperation between several schools for vocational training was established. A transportable container has been adapted as a dental health care station. The interior design of the container was prepared at Hamburg vocational schools by painters, carpenters, electricians, roof plumbers and SHK trainees and shipped to Mozambique. In this way, the content of "global learning" could be applied to various vocational schools by means of learning from field situations.

### Reflect

- ✦ What is the general idea behind the dental care container project?
- ✦ What is the benefit for the two partners?
- ✦ Is there any chance to get the positive effect of the project spread within Mozambique?
- ✦ Is it possible to transfer the idea of this cooperative project to other areas?

### I. Learning objectives

- ✦ The learner understands the important role of education and lifelong learning opportunities for all (formal, non-formal and informal learning) as main drivers of sustainable development, for improving people's lives and in achieving the SDGs.
- ✦ The learner is able to raise awareness of the importance of quality education for all, a humanistic and holistic approach to education, ESD and related approaches.
- ✦ The learner is able to contribute to facilitating and implementing quality education for

all, ESD and related approaches at different levels.

### II. Achieved core competencies of learners

- ✦ Critical thinking competency
- ✦ Systems thinking competency
- ✦ Anticipatory competency
- ✦ Normative competency
- ✦ Integrated problem-solving competency
- ✦ Strategic competency
- ✦ Collaboration competency
- ✦ Self-awareness competency

### III. Ideas to teach

- ✦ Reflecting on education. Discuss how education and training promote sustainable development.
- ✦ Discussing health as part of education
- ✦ Debate on pros and cons concerning the international financing of education processes
- ✦ Design a role play to demonstrate the effects of insufficient education facilities that do not allow children with disability in accessing educational opportunities.
- ✦ Creating an international education project
- ✦ Develop a case study on how lack of education affects men and women.

### IV. Ideas for your own practice

- ✦ Organize "green" talks and events at schools, colleges, universities and work places
- ✦ Make sustainability a key element of an institution's management plan
- ✦ Aim to create a sustainability commons<sup>1</sup> (a place where low-carbon technologies such as sun-stoves and solar water heaters, are installed and experimented with) at your institution so that others can learn how to live more sustainably

### Useful links

Website of the initiative:

<http://webblog.forumzumaustauschzwischenkulturen.de/>



## 5. ACHIEVE GENDER EQUALITY AND EMPOWER ALL WOMEN AND GIRLS



### Why this goal?

Equality between men and women remains a chronic challenge. Rights and privileges are either denied or granted based on gender and inequality remains embedded in culture, religion, rules and laws. In many parts of the world women are denied their basic rights, face violence, and their work in homes and informal economy goes unacknowledged. Women are underrepresented in governance, both in the public and private sector. Inequalities exist in the labour market in some regions, with women systematically denied equal access to jobs. Sexual violence and exploitation, the unequal division of unpaid care and domestic work, and discrimination in public office, all remain huge challenges.

According to the World Bank, countries with greater gender equality are more prosperous and competitive. Women account for one-half of the potential human capital in any economy. Gender equality can unlock this human potential. Affording women equal rights to economic resources such as land and property are vital targets to realizing this goal. Ensuring universal access to sexual

and reproductive health is also very important for achieving gender equality.

Ending all forms of discrimination against women and girls is not only a basic human right, but it also crucial to accelerating sustainable development. It has been proven time and again, that empowering women and girls has a multiplier effect, and helps drive up economic growth and development across the board.

Today there are more women in public office than ever before, but further encouraging women leaders will help strengthen policies and legislation for greater gender equality. Gender equality is not only a fundamental human right, but a necessary foundation for a peaceful, prosperous and sustainable world.

### Reference:

<http://www.undp.org/content/undp/en/home/sustainable-development-goals.html>  
<http://www.un.org/sustainabledevelopment/sustainable-development-goals/>



## Story of Change

### Hamburg, South Africa: Where collaborative enterprise developed new freedoms

Nozeti describes how the skills that her community has learnt in making up memory boxes for lost generations had been turned into embroidery arts. This artwork creatively depicts rural life in articles that can be sold in city art and craft shops. One of the centre-pieces in much of the early embroidery was Nguni cattle that have been drawn by Nozeti. Her art depicts these iconic cattle in ways that could be included in tapestry work that can be made into bags and cushions. These enterprises have helped mobilise people and have also brought in money that gave the women the independence of pay money in their pockets for food. Many now have school fees so that the children were better clothed and do not go to school hungry. Hamburg was transformed by the enterprise of women working together and learning to use their skills to bring in a small supplementary income that began to turn around the dark side of an apartheid legacy of exclusion.

The village of Hamburg lies on the east coast of South Africa where the Keiskamma River enters

## Impact on SDGs



the sea. It is a small town in the former Ciskei Homeland of the apartheid state that celebrated freedom in 1994 as apartheid gave way to democracy and hopes were high for the future. These hopes were not to be realised as it was one of the areas with the highest levels of HIV and AIDS in the world. Situated between Port Elizabeth and East London, most men migrated to the cities weekly for work. This pattern of weekly migrant work meant that the rural women became dependent victims of the money coming from town. They had no independent incomes for food or for their children's school fees and many of their partners who were away working in town for the week brought money and HIV back home with them over the weekends and holidays. After a few years of freedom the weekends became a time for funerals as a whole generation of young mothers began to die from AIDS. The only option available was for women to begin to mobilise themselves with the help of a local doctor. The idea was to bring the women dying of AIDS together so that they could put together a memory box for the babies they would never see growing up. The children of the dying generation of young mothers could only be cared for by their grandmothers (Gogos) and the village families that survived in increasing poverty as the working men were also dying from AIDS.

### Reflect

- ✦ What is the main problem in the remote area of Hamburg, South Africa?
- ✦ What is the general idea of the project?
- ✦ Why was income so important for the women?
- ✦ Can you think of marketable skills that support women in your locality?
- ✦ Is the project really for the benefit of women?
- ✦ Is the project suitable to improve the women's situation on the long run?
- ✦ Is the project idea transferrable to other regions?

### Useful links

Description of "The Keiskamma Art Project":  
<http://artmap.co.za/the+keiskamma+art+project>

## I. Learning objectives

- ✦ The learner understands the concept of gender, gender equality and gender discrimination and knows about all forms of gender discrimination, violence and inequality.
- ✦ The learner understands the basic rights of women and girls, including their right to freedom from exploitation and violence and their reproductive rights.
- ✦ The learner is able to recognize and question traditional perception of gender roles in a critical approach, while respecting cultural sensitivity.
- ✦ The learner is able to evaluate, participate in and influence decision-making about gender equality and participation.

## II. Achieved core competencies of learners

- ✦ Achieved core competencies of learners
- ✦ Critical thinking competency
- ✦ Systems thinking competency
- ✦ Anticipatory competency
- ✦ Normative competency
- ✦ Integrated problem-solving competency
- ✦ Strategic competency
- ✦ Collaboration competency
- ✦ Self-awareness competency

## III. Ideas to teach

- ✦ Researching the actual HIV/Aids
- ✦ Discussing and evaluating gender aspects of HIV/Aids
- ✦ Creating a program against HIV/Aids
- ✦ Creating a concept map on the causal connection of HIV/Aids and poverty
- ✦ Debating whether the Keiskamma art project should get an international award

## IV. Ideas for your own practice

- ✦ Ensure that female colleagues at work feel supported in their maternity leave
- ✦ Ensure that gender bias is consciously considered and mitigated at the work place especially at a decision-making level
- ✦ Plan deliberately for female empowerment and career related internships at the work places





## 6. ENSURE AVAILABILITY AND SUSTAINABLE MANAGEMENT OF WATER AND SANITATION FOR ALL



### Why this goal?

More than every third person on earth is affected by water scarcity. In semi-arid and politically uncertain areas like Western Asia or the Sahel region it is far more than that. A further increase of the global temperatures as a result of climate change will make these data increase in the near future. Though there has been remarkable success in the last decades concerning sanitation as well as drinking water supply, water scarcity still is one of the big issues among recent global challenges. Water has to be a commons, because it is the basis of all life. Water is critical for food and human well-being. Therefore water must be used in a balanced manner and needs to be protected.

In the beginning of this decade, in 2011, more than 40 countries experienced water stress, which is to be understood as about 40 per cent less water per capita than is normally required. Drought and desertification are visible and obvious implication of this trend. It is expected that in 2050 at least

one fourth of the world population will be affected by recurring water shortages. Improved drinking water, sanitation and hygiene play an underpinning role in human progress, including health, education and poverty reduction.

As water is essential good access to safe and affordable water needs to be ensured. To realize this, adequate infrastructure, including sanitation facilities are crucial. Encouraging hygiene at every level is also required within the next decade. This again assumes functioning and healthy water-related ecosystems such as forests, mountains, wetlands and rivers. This will only be reached through international and/or global cooperation.

### Reference:

<http://www.undp.org/content/undp/en/home/sustainable-development-goals.html>  
<http://www.un.org/sustainabledevelopment/sustainable-development-goals/>





## Story of Change

### Citizen science bio-monitoring: from South African miniSASS to global uptake!

In Southern Africa water quality, quantity and equity is a serious problem. It is now reaching crisis proportions because human impact is degrading water resources at an alarming rate. Since it is a human created problem the solution must be with humans – people do not fully understand how to access water and how to use it wisely – and droughts and water shortages make this worse. In fact it is estimated that over 40 per cent of all human diseases, in Southern Africa, are carried through water. The “Stream Assessment Scoring System” (miniSASS) is an inexpensive, citizen science tool designed to give the user a convenient River Health Index and an opportunity for addressing river pollution issues. Such approaches to water quality monitoring do not require expensive laboratories or advanced scientific knowledge and can be applied through citizen science processes. MiniSASS is remarkable in many ways. It developed from the realisation that the invertebrates (small insects) that live in our streams and rivers have a lot to tell us about stream quality – if we can read their stories. The Stream Assessment Scoring System (miniSASS) helps address problems related to water quality especially in local streams and rivers. By identifying just thirteen insects (actually macro-invertebrates), that live in streams and rivers, people can calculate a River Health Index so as to monitor their own water systems. And this can be done for free! Even a nine year old child, who is semi-literate in English, can apply this technique. Once participants are able to recognise these insects, using a simple reference sheet (dichotomous key) which is provided on the miniSASS website ([www.minisass.org](http://www.minisass.org)), they can

## Impact on SDGs





calculate a River Health Index through miniSASS. If they use the Google Earth layer to input their data it calculates their score automatically and provides a coloured crab which remains on the computer screen and data-base and represents the River Health Index for that particular site. Education for sustainable development thus goes beyond awareness raising. By supporting participants to engage with the environmental issues and risks they face, projects like miniSASS are showing how to enable social change through co-engaged action-taking.

### Reflect

- ✦ What is a citizen science process?
- ✦ What is the basic idea of the miniSASS-project?
- ✦ What can be reached with a project like that?
- ✦ Does the miniSASS-project improve the quality of water?
- ✦ Is there a similar project in other countries other than South Africa?

### Useful links

Website of miniSASS:  
<http://www.minisass.org/en/>

## I. Learning objectives

- ✦ The learner understands water as a fundamental condition of life itself, the importance of water quality and quantity, and the causes, effects and consequences of water pollution and water scarcity.
- ✦ The learner understands that water is part of many different complex global interrelationships and systems.
- ✦ The learner is able to participate in activities of improving water and sanitation management in local communities and is able to communicate about water pollution, water access and water saving measures and to create visibility about success stories.
- ✦ The learner is able to cooperate with local authorities in the improvement of local capacity for self-sufficiency.

## II. Achieved core competencies of learners

- ✦ Critical thinking competency
- ✦ Systems thinking competency
- ✦ Anticipatory competency
- ✦ Normative competency
- ✦ Integrated problem-solving competency
- ✦ Strategic competency
- ✦ Collaboration competency
- ✦ Self-awareness competency

## III. Ideas to teach

- ✦ Excursion to a local river
- ✦ Discussing the water quality
- ✦ Creating a mind map or concept map on the consequences of water quality to for the local population.
- ✦ Practice miniSASS
- ✦ Local activity planning on the base of the miniSASS project result about the local water quality.
- ✦ Writing an article for the local newspaper about the findings.

## IV. Ideas for your own practice

- ✦ Plant indigenous shrubs in your neighborhood
- ✦ Learn and teach others how to read a water meter
- ✦ Track down and stop a water pollution source



## 7. ENSURE ACCESS TO AFFORDABLE, RELIABLE, SUSTAINABLE AND MODERN ENERGY FOR ALL



### Why this goal?

Still one in five people lack access to modern energy and 3 billion people rely on wood, coal, charcoal or animal waste for cooking and heating.

Access to affordable and reliable energy services is fundamental to reducing poverty and improving health, increasing productivity, enhancing competitiveness and promoting economic growth. Unfortunately conventional energy production, such as through burning non-renewable fossil fuels, is the dominant contributor to climate change, accounting for around 60 per cent of total global greenhouse gas emissions. As we strive for universal access of modern energy services, it is essential to produce energy that does not contribute to greenhouse gas emissions. It is necessary that all countries increase their sustainable energy supply, leapfrogging over the limits of the energy systems of the past and build the clean energy economies of the future.

Ensuring universal access to affordable electricity by 2030 means investing in clean energy sources such as solar, wind, thermal and biomass. Simultaneously the energy demand can be reduced by means of technical solutions and sustainable consumption. Upgrading technology as well as a decentralized infrastructure to provide clean energy in all countries is a crucial goal that can both encourage growth and achieve sustainable development.

### Reference:

<http://www.undp.org/content/undp/en/home/sustainable-development-goals.html>  
<http://www.un.org/sustainabledevelopment/sustainable-development-goals/>  
<http://www.worldenergyoutlook.org/resources/energydevelopment/modernenergyforallwhyitmatters>





## Story of Change

### Renewable and independent: Jühnde's energy supply

It might turn out that the future of a decentralized and sustainable energy supply started in Jühnde, a tiny village right in the middle of Germany. Chosen out of seventeen applicants the energy specialists of the nearby University of Göttingen selected the village since it appeared suitable for their trend-setting plans. Jühnde thus became a platform for a unique experiment which started in 2001. The number of inhabitants, the amount of permanent available biomass and the willingness of the villagers to join and co-finance the project met the requirements of the project. Financially supported by communal, state, federal and European administration a fermentation plant and a facility to produce woodchips were set up in 2005. This offered the energy supply of the whole village and guaranteed its independence from oil and other fossil based fuels. By investing 2000 to 3000 Euro per household in participation certificates of the energy project the villagers became its owners, producers and customers of their bioenergy plant at the same time. Nevertheless a new dependency emerged since the project needs the benefit of the "Renewable Energy Law" to secure the fund-

## Impact on SDGs



ing. This law guarantees the purchase of energy. Hence, produced renewable energy is at a fixed rate for twenty years. As Jühnde's bioenergy plant produces twice as much energy as is used in the village a profitable business could be set up, which annually brought half a million Euro revenue. This means that the energy bills of the villagers are below those of the average household in Germany. Last but not least, the demand of biomass to run the plant offers a reliable source of income and new vocational perspectives to the local farmers. Though only practicable under specific conditions, Jühnde has become an attractive model and this has led to a number of imitators all over Germany and in adjacent countries.

### Reflect

- ✦ What is the local and global energy situation?
- ✦ What was the reason why the villagers of Jühnde started the project?
- ✦ Is Jühnde's project still working?
- ✦ Which other settlements copied Jühnde's strategy?
- ✦ Is it possible to transfer the Jühnde strategy to a big city or to my own city?

### I. Learning objectives

- ✦ Understand and analyze the meaning of energy for human life
- ✦ Comprehend the impact of use of different energy sources
- ✦ Learn about sustainable energy supply systems

- ✦ The students analyze and evaluate the given energy demand and supply of their school/home and suggest ways to improve it according to the principles of sustainable development
- ✦ The learner is able to communicate the need for energy efficiency and sufficiency
- ✦ The learner is able to apply and evaluate measures in order to increase energy efficiency and sufficiency in their personal sphere and to increase the share of renewable energy in their local energy mix.

### II. Achieved core competencies of learners

- ✦ Critical thinking competency
- ✦ Systems thinking competency
- ✦ Anticipatory competency
- ✦ Normative competency
- ✦ Integrated problem-solving competency
- ✦ Strategic competency
- ✦ Collaboration competency
- ✦ Self-awareness competency

### III. Ideas to teach

- ✦ Survey of energy demand and supply of the school/home by interviews
- ✦ Conduct a SWOT analysis
- ✦ Research information about possible alternatives
- ✦ Design or create a sustainable energy supply of your school/home
- ✦ Check in which way the targets can be realized

### IV. Ideas for your own practice

- ✦ Commit to using hot-boxes as part of catering for events
- ✦ As conventional light bulbs and tubes expire replace them with LED equivalents
- ✦ Install a Photovoltaic panel to supply electricity
- ✦ Let others know about your experiences

#### Useful links

Website of Jühnde Bio-Energy-Village:  
<http://www.bioenergiedorf.de/en/home.html>

Website of World Energy Council:  
<https://www.worldenergy.org/>



### V. Targets

**7.1**

By 2030, ensure universal access to affordable, reliable and modern energy services

**7.2**

By 2030, increase substantially the share of renewable energy in the global energy mix

**7.3**

By 2030, double the global rate of improvement in energy efficiency

**7.A**

By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology

**7.B**

By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States, and land-locked developing countries, in accordance with their respective program of support

### Personal Notes

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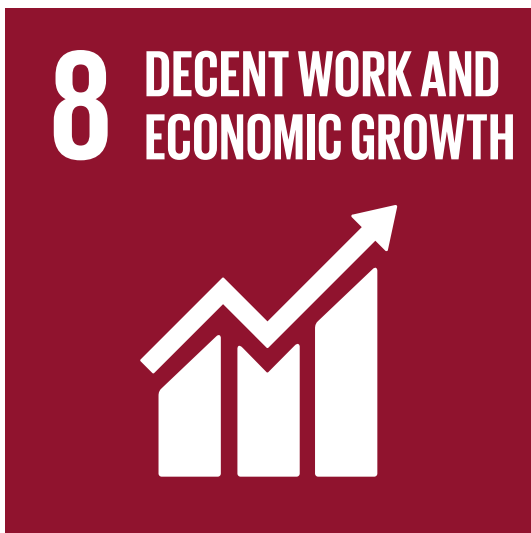
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## 8. PROMOTE SUSTAINED, INCLUSIVE AND SUSTAINABLE ECONOMIC GROWTH, FULL AND PRODUCTIVE EMPLOYMENT AND DECENT WORK FOR ALL



### Why this goal?

Over the past 25 years the number of workers living in extreme poverty has declined dramatically, despite the lasting impact of the 2008 economic crisis and global recession. In developing countries, the middle class now makes up more than 34 per cent of total employment – a number that has almost tripled between 1991 and 2015.

However, as the global economy continues to recover we are seeing slower growth, widening inequalities, and not enough jobs to keep up with a growing labour force. According to the International Labour Organization, more than 204 million people were unemployed in 2015. The SDGs promote sustained economic growth, higher levels of productivity and technological

innovation. Encouraging entrepreneurship and job creations are keys to this, as are effective measures to eradicate forced labour, slavery and human trafficking. With these targets in mind, the goal is to achieve full and productive employment, and decent work, for all women and men by 2030.

### Reference:

<http://www.undp.org/content/undp/en/home/sustainable-development-goals.html>  
<http://www.un.org/sustainabledevelopment/sustainable-development-goals/>





## Story of Change

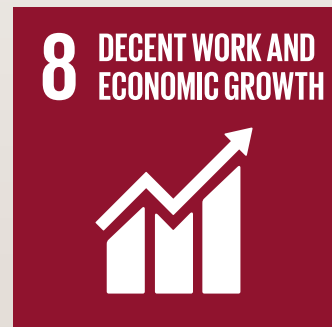
### YES: South Africa's Youth Employment Service

In an attempt to curtail increasing youth unemployment the South African government initiated the Youth Employment Service (YES) in 2003. Its aim was to respond to the multiple needs of young people which enable them to access new opportunities for employment, income generation, skills and personal development while contributing to the reconstruction of South Africa. Youth Employment Service prioritized and targeted young women, youth with disabilities, unemployed youth, out of school youth, youth in the rural areas, youth at risk, youth heading households and youth in conflict with the law.

It entailed the involvement of unemployed young people in activities which provide environmental service that benefits the community whilst they are also provided with opportunities for personal development, accredited training and exit opportunities. The environmental service involves bringing about solutions to environmental problems including but not limited to erosion, waste, deforestation, education and awareness. It should meet the community needs; add value to the beneficiaries' development and further training or self-employment by opening up business ventures as exit opportunities from the program. During the time of involvement in the program the youth receive an allowance.

Creating jobs is a great way to reduce poverty. When people have jobs, they have income, and when they have income, they can more easily get themselves out of poverty. Nearly 2.2 billion people live below the US\$2 poverty line and that poverty eradication is only possible through stable and well paid jobs as clarified by the UN.

## Impact on SDGs





The dawn of democracy in South Africa never brought only the jubilation with all its freedoms but was also faced with major challenges on many fronts. One of these challenges was that of youth unemployment. Though there has been a rigorous effort by the government in addressing this, due to the backlog over the years, this is proving a mammoth task hence the need to accelerate youth development and employment opportunities by both the government and the private sector. Statistics have shown that youth in South Africa account for more than 50 per cent of the population but the challenge is that the lack of the needed skills to fully contribute to the economic growth and development of the country. This can be attributed to poor education, training and development, lack of exposure to work opportunities, work experience, as well as social and psychological stresses. Programs like YES are seeking to overcome these challenges.

### Reflect

- ✦ What is the reason of youth unemployment?
- ✦ What can be done by whom to overcome this problem?
- ✦ Who is responsible to solve the problem?
- ✦ What does the program entail?

### Useful links

Website of "YES":  
[https://www.environment.gov.za/projectsprogrammes/youth\\_environmental\\_service\\_yes](https://www.environment.gov.za/projectsprogrammes/youth_environmental_service_yes)

## I. Learning objectives

- ✦ The learner understands the interlinkages between growth, employment, poverty reduction and human development.
- ✦ The learner understands the concepts of sustained, inclusive and sustainable economic growth, full and productive employment, and decent work, including the advancement of gender parity and equality, and knows about alternative economic models and indicators.
- ✦ The learner is able to develop a vision and plans for their own economic life based on an analysis of their competencies and contexts.
- ✦ The learner is able to engage with new visions and models of a sustainable, inclusive economy and decent work.

## II. Achieved core competencies of learners

- ✦ Critical thinking competency
- ✦ Systems thinking competency
- ✦ Anticipatory competency
- ✦ Normative competency
- ✦ Integrated problem-solving competency
- ✦ Strategic competency
- ✦ Collaboration competency
- ✦ Self-awareness competency

## III. Ideas to teach

- ✦ Discussion
- ✦ Question and Answer
- ✦ Assignments
- ✦ Application

## IV. Ideas for your own practice

- ✦ Organize regular sustainability training for staff
- ✦ Install green technologies at work and highlight them with signage for staff and visitors
- ✦ Make your workplace a sustainability commons where others are invited to learn about and try out greening technologies and gaining new skills for a just and sustainable future.

## V. Targets

### 8.1

Sustain per capita economic growth in accordance with national circumstances and, in particular, at least 7 per cent gross domestic product growth per annum in the least developed countries

### 8.2

Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors

### 8.3

Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services

### 8.4

Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-year framework of programs on sustainable consumption and production, with developed countries taking the lead

### 8.5

By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value

### 8.6

By 2020, substantially reduce the proportion of youth not in employment, education or training

### 8.7

Take immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour, including recruitment and use of child soldiers, and by 2025 end child labour in all its forms

### 8.8

Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment

### 8.9

By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products

### 8.10

Strengthen the capacity of domestic financial institutions to encourage and expand access to banking, insurance and financial services for all

### 8.A

Increase Aid for Trade support for developing countries, in particular least developed countries, including through the Enhanced Integrated Framework for Trade-Related Technical Assistance to Least Developed Countries

### 8.B

By 2020, develop and operationalize a global strategy for youth employment and implement the Global Jobs Pact of the International Labor Organization

## Personal Notes

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## 9. BUILD RESILIENT INFRASTRUCTURE, PROMOTE INCLUSIVE AND SUSTAINABLE INDUSTRIALIZATION AND FOSTER INNOVATION

### 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



#### Why this goal?

Infrastructure – including transport, irrigation, energy, as well as information and communication technology – is crucial to achieving sustainable development and empowering communities in all countries. Quality infrastructure is positively related to the achievement of social, economic and political goals. Inadequate infrastructure leads to a lack of access to markets, to jobs, to information and training, as well as creating a major barrier to doing business. Undeveloped and insufficient infrastructure limits access to health care, education, livelihoods, and impacts negatively on life and safety.

Inclusive and sustainable industrial development is one of the important sources of income generation. It allows for rapid and sustained increases in living

standards for all people and provides the technological solutions to environmentally sound industrialization. Technological progress is the foundation of efforts to achieve environmental objectives such as increased resource and energy-efficiency. Without technology and innovation, industrialization will not happen, and without industrialization, development will not happen.

- Every sixth working person on earth is engaged in industrial production. Around half a billion people are thus engaged in industrial production. Industrialization functions as a job multiplier since each job can create more than two other ones in other sectors.
- Because of strong rising interest in energy alternatives, the possible total employment for renewables by 2030 is predicted as being as many as 20 million jobs
- Industrialization uses a major part of the world's energy supply but can also be the key for a resource and energy saving mode of production

Production that works to achieve sustainable development plays an important role in achieving the agreed SDG targets. Pioneering innovations have enormous potential but these ideas have to be studied and evaluated according to their global relevance and appropriateness.

#### Reference:

<http://www.undp.org/content/undp/en/home/sustainable-development-goals.html>

<http://www.un.org/sustainabledevelopment/sustainable-development-goals/>

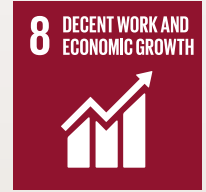


## Story of Change

### Sustainable water-saving devises

Do your dishes with only half of the usually used water and energy without even noticing a difference. This is the philosophy on which the German Grohe company runs its production of water fittings. Their "Sustainability Vision" has the aim of becoming the largest producer of sustainable fittings worldwide by 2020. Against the global trend of short-lived and inferior industrial products the company decided to produce high quality, reliable and resource saving instruments. Reducing their customers resource needs is one goal of the company while the other shows a recycling rate close to 100 per cent! This means the company is also sustainably producing raw material and other components. Sustainability seminars for employees are also offered. The Grohe company saves up to 50 per cent on energy reduced light and heating installations in the administrative units as







## Impact on SDGs






well as in the production halls and offers various opportunities to arrange for family needs, health aspects and flexible work schedules. The individual situation and needs of employees are thus accommodated.

These technologies have an enormous potential to contribute to a more sustainable life style for their customers and might even offer an example to other industrial producers about how sustainable production can be realized. Acting in more than 130 countries the company itself serves as a global multiplier not only for their own staff and customers but also for competitors. Innovation is a crucial factor fostering any sustainable development on the local, regional or global level. But innovation is not always successful in that way. It is often the combination and choice of well proven ways and innovative paths that prove successful. To build a resilient infrastructure, to promote inclusive and sustainable industrialization and to foster innovation includes traditional approaches and innovations. According to the actual “German Sustainable Development Strategy” the Federal Government intends to invest at least three per cent of the national GDP by 2030 on private and public spending on research and development to improve the country’s infrastructure, whether it is traffic, public transport, electricity, water or communication.

### Reflect









-  What exactly is sustainable about this product and the production process?
-  Is this mode of production transferable to countries of the Global South?
-  Is there a possibility to bring the prices down and support less rich clients?
-  Isn't that the perfect example for a rebound effect story?<sup>1</sup>
-  Sustainability can drive innovation and vice versa. Discuss.
-  How can consumers drive product innovation?

### I. Learning objectives







-  Understand and analyse possibilities and limits of sustainable industrial production.
-  Comprehend the impact and use of different energy sources (Problem of global practice).
-  Learn about sustainable energy supply systems (Solution and action).

<sup>1</sup> The rebound effect describes a phenomenon when people increase the use of efficient products in a way which ultimately reduces costs through the efficiency gains.




### II. Achieved core competencies of learners

-  Critical thinking competency
-  Systems thinking competency
-  Anticipatory competency
-  Normative competency
-  Integrated problem-solving competency
-  Strategic competency
-  Collaboration competency
-  Self-awareness competency

### III. Ideas to teach

-  Calculating individual and collective water use per day, week, month and year and comparing it to precipitation rates.
-  Researching water prices in various cities and countries.
-  Calculating water savings and costs due to innovative techniques.
-  Debating the meaning of innovation.
-  Interviewing experts on infrastructure and innovation.
-  Planning a sustainable infrastructure for one's own local or regional area.

### IV. Ideas for your own practice

-  Investigate, plan and budget for a sustainability retrofit at the work place (This could be related to lighting, electricity, insulation, water etc.)
-  Use this experience to inform, educate and train others
-  Develop a sustainability commons at your workplace or centre that makes working “green” demonstrations easily accessible to a broad public

### Useful links

Grohe Sustainability Policy:  
<https://www.grohe.com/19483/about-company/responsibility/sustainability-policy/>





## 10. REDUCE INEQUALITY WITHIN AND BETWEEN COUNTRIES



### Why this goal?

Inequality is a threat to the world. Inequalities may be related to income, age, gender, disability, race, ethnicity, origin, religion or economic status. Inequality and associated poverty locks out a large share of the world's population from education, health, security, income streams, markets and a whole lot of other opportunities and choices. Similarly, inequalities between countries hinder participation and the ability to benefit from the global economy. Such inequalities limit negotiating powers in global policies, may become the cause for migration and wars, and can compromise the ability to deal with environmental and other problems.

It is well documented that income inequality is on the rise, with the richest 10 per cent earning up to 40 per cent of total global income! In developing

countries, inequality has increased by 11 per cent if we take into account the growth of the population. Evidence shows that, beyond a certain threshold, inequality harms growth and poverty reduction. It also negatively affects the quality of relations in the public and political spheres and an individuals' sense of fulfilment and self-worth. There is nothing inevitable about growing income inequality; several countries have managed to contain or reduce income inequality while achieving strong growth performance. Income inequality cannot be effectively tackled unless the underlying inequality of opportunities is addressed.

Social protection has been significantly extended globally, yet persons with disabilities are up to five times more likely to incur catastrophic health expenses. Despite overall declines in maternal mortality in the majority of developing countries, women in rural areas are still up to three times more likely to die while giving birth than women living in urban centres.

These widening disparities require the adoption of sound policies to empower the lower income earners and promote economic inclusion of all, regardless of sex, race or ethnicity.

Income inequality is a global problem that requires global solutions. This involves improving the regulation and monitoring of financial markets and institutions, encouraging wise development assistance and direct foreign investment to regions where the need is greatest. Facilitating safe migration and mobility of people is also a key to bridging the widening divide.

### Reference:

<http://www.undp.org/content/undp/en/home/sustainable-development-goals.html>  
<http://www.un.org/sustainabledevelopment/sustainable-development-goals/>



## Story of Change

### Stay or leave?

The colours of the sky tell you that the night is coming. You had been walking for so long now that the time seems to have stopped. Your feet hurt but you cannot stop now, you have to keep walking along the rail tracks. Although you are surrounded by strange people, you are alone on this journey. Suddenly you hear a roar in the wind, you know it is close and you must hurry or you will miss the opportunity to catch it. The men and women near you start running and as an unconscious reaction, you do the same.

In a matter of seconds, you see it, tons of steel that transport material from south to north and you and the others will use it as your vehicle to leave your home and find some better opportunities in another land. They call it "The Beast", because of all the people that try to catch it, many have failed. Some had fallen under its feet of steel; others realize that even if they managed to get on it, they were not safe up there.

Instead of all those stories you heard in the past, you keep running beside the train tracks. You can see the tired faces of the other above "The Beast". No one can help you to get into the train – it is too dangerous. You know that if "The Beast" is running

## Impact on SDGs





too fast, it will swallow you into its wheels. So you need to wait for that one right moment to grab “The Beast” and jump onto it.

In that instant, everything freezes, and clearly you hear the voice in your head asking: “Why I´m doing this? Is this really the only and best way to get to the north?”

“Hermanosen el camino” (brothers on the road), is a shelter founded on the initiative of Father Alejandro Solalinde in February 2007, located in southern Mexico in the state of Oaxaca, in the city of Ixtepec. The aim of the shelter is to provide humanitarian aid (food, shelter, medical, psychological and legal help) to migrants from Central America, as well as South America, Asia and Africa. The majority of the migrants arrive by riding on top of freight trains coming from the neighboring state of Chiapas. During the trip, many are assaulted, robbed, kid-napped, raped, and may have faced extortion by the

Municipal, State, and Federal Police, as well as by the National Institute of Immigration.

## Reflect

- ✦ What is “The Beast”?
- ✦ Why is someone looking for a better opportunity?
- ✦ Why do animals migrate? Why do people migrate?
- ✦ Which are the most vulnerable groups that migrate?
- ✦ How is migration regulated?
- ✦ Does migration reduce inequality?
- ✦ Why do people migrate internally and across borders and continents?
- ✦ What advice would you give your government to reduce inequality?

## I. Learning objectives

- ✦ The learner knows different dimensions of inequality and their interrelationships.
- ✦ The learner understands that inequality is a major driver for societal problems and individual dissatisfaction and is able to raise awareness about inequalities.
- ✦ The learner is able to feel empathy for, and to show solidarity with, people who are discriminated against.
- ✦ The learner is able to identify and analyses different types of causes and reasons for inequalities.

## II. Achieved core competencies of learners

- ✦ Critical thinking competency
- ✦ Systems thinking competency
- ✦ Anticipatory competency
- ✦ Normative competency
- ✦ Integrated problem-solving competency
- ✦ Strategic competency
- ✦ Collaboration competency
- ✦ Self-awareness competency

## III. Ideas to teach

- ✦ Survey of migration patterns inside the classroom and school by interviews
- ✦ Research about the latest mass migrations in the world
- ✦ Create or design a collage about the most vulnerable groups that migrate
- ✦ Create a world map with the routes that the migrants need to achieve to reach their destiny




### Useful links

Website of Hermanos en el Camino:  
<http://www.hermanosenelcamino.org/>

Adolescentes en el Camino on Facebook:  
<http://es-la.facebook.com/adolescenteselcamino>

Albergue de Migrantes “Hermanos en el Camino” on Facebook:  
<http://es-la.facebook.com/Albergue-de-Migrantes-HERMANOS-EN-EL-CAMINO-237391866300149>

#### IV. Ideas for your own practice

-  When you meet others, especially strangers, try and place yourself in their shoes so that you develop empathy for their situation.
-  Start a staff saving/no interest loan scheme at work with every one contributing a small monthly amount, managed by lowest paid employee
-  Explore the benefits of non-debt based exchange currencies<sup>1</sup>

#### Personal Notes

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#### V. Targets

##### 10.1

By 2030, progressively achieve and sustain income growth of the bottom 40 per cent of the population at a rate higher than the national average

##### 10.2

By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status

##### 10.3

Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies and action in this regard

##### 10.4

Adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality

##### 10.5

Improve the regulation and monitoring of global financial markets and institutions and strengthen the implementation of such regulations

##### 10.6

Ensure enhanced representation and voice for developing countries in decision-making in global international economic and financial institutions in order to deliver more effective, credible, accountable and legitimate institutions

##### 10.7

Facilitate orderly, safe, regular and responsible migration and mobility of people, including through the implementation of planned and well-managed migration policies

##### 10.A

Implement the principle of special and differential treatment for developing countries, in particular least developed countries, in accordance with World Trade Organization agreements

##### 10.B

Encourage official development assistance and financial flows, including foreign direct investment, to States where the need is greatest, in particular least developed countries, African countries, small island developing States and landlocked developing countries, in accordance with their national plans and programmes

##### 10.C

By 2030, reduce to less than 3 per cent the transaction costs of migrant remittances and eliminate remittance corridors with costs higher than 5 per cent

<sup>1</sup> <https://www.communityexchange.org/home/>

# 11. MAKE CITIES AND HUMAN SETTLEMENTS INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE



## Why this goal?

World population is increasingly becoming urban. As of 2014, 54 people out of every 100 lived in cities, which is already more than half. By 2050, that figure will have risen to 6.5 billion people – two-thirds of all humanity.

Extreme poverty is often concentrated in urban spaces. National and city governments struggle to accommodate the rising population in these areas. Making cities safe and sustainable means ensuring access to safe and affordable housing and upgrading slum settlements. It also involves investment in public transport, creating green public spaces, and improving urban planning and management in a way that is both participatory and inclusive.

Cities are the economic engines for nearly all countries. They also produce almost three-quarters of all greenhouse gases and cities are massive producers of waste. But at the same time cities have an enormous potential for sustainable development. Solar and other renewable energy generation becomes a possibility as well as the

sustainable design of urban infrastructure. Urbanization is now being seen as a potent, and urgent, component of both anti-poverty and sustainability efforts.

Sustainable development cannot be achieved without significantly transforming the way we build and manage our cities and urban living spaces. The environmental impact of cities needs to be better managed and special attention must be paid to air quality and municipal and other waste management. Therefore policies and plans towards inclusivity, resource efficiency, mitigation and adaptation to climate change, resilience to natural hazards and human caused disasters need to be implemented.

## Reference:

<http://www.undp.org/content/undp/en/home/sustainable-development-goals.html>  
<http://www.un.org/sustainabledevelopment/sustainable-development-goals/>





## Story of Change

### Sustainability focus: The “Green City” Freiburg

The City of Freiburg provides citizens with a waste management system that is both ecologically and economically sustainable. The city’s waste management policy is structured on a hierarchical set of principles, favouring waste prevention, followed by waste recovery, and finally ecological disposal. Citizens are encouraged, through communications campaigns and financial incentives, to separate waste and to cut down on the waste they generate. In 1997 Freiburg was one of the first cities to introduce organic waste containers. The compostable waste is transformed into biogas by means of a fermentation plant and the gas then further transformed into electricity. The fermentation residues are composted.






Closed landfills are utilized to generate electricity. Due to the decomposition process of the organic

## Impact on SDGs




waste, gas is produced which consists partially of methane. The gas is vacuumed out under controlled conditions, processed and used at a combined heating and power station. The generated thermal and electrical energy serves one of Freiburg's suburbs, whilst a photovoltaic plant installed on a so-called "energy mountain" also generates energy. Freiburg's District Vauban shows urban development with eco-awareness in which civic involvement goes hand in hand with collective building and environmentally-conscious living. Low-energy building is mandatory in this district and around 170 units have been built as passive houses and a further 70 as energy-plus homes. Heating from a local heating net-work powered by renewable energy sources and the use of solar technology is largely standard for most homes. An infrastructure incorporating schools, nursery schools, youth facilities, civic meeting places, a market place as well as leisure and play areas, was built in parallel with the private development. The concept of a sustainable city is also followed in other, new sections, of the fast growing city.

### Reflect

-  What is a sustainable city?
-  What are the advantages and disadvantages of sustainable cities for their inhabitants?
-  Can cities be sustainable at all?
-  Are there sustainable cities in my region?
-  Is Freiburg's "Green City"-concept transferable to other/your cities?



### I. Learning objectives

-  The learner is able to evaluate and compare the sustainability of their and other settlements' systems in meeting their needs particularly in the areas of food, energy, transport, water, safety, waste treatment, inclusion and accessibility, education, integration of green spaces and disaster risk reduction.









### Useful links

Website of the city of Freiburg: Freiburg Green City  
<http://www.freiburg.de/pb/,Len/372840.html>








"Germany - Freiburg - Green City" on The EcoTipping Point Project-website:  
<http://www.ecotippingpoints.org/our-stories/indepth/germany-freiburg-sustainability-transportation-energy-green-economy.html>

-  The learner is able to contextualize their needs within the needs of the greater surrounding ecosystems, both locally and globally, for more sustainable human settlements.
-  The learner is able to speak against/for and to organize their voice against/for decisions made for their community.





### II. Achieved core competencies of learners

-  Critical thinking competency
-  Systems thinking competency
-  Anticipatory competency
-  Normative competency
-  Integrated problem-solving competency
-  Strategic competency
-  Collaboration competency
-  Self-awareness competency

### III. Ideas to teach

-  Researching the sustainable city development plan of ones own city
-  Researching concepts of sustainable urban development
-  Pros and cons whether cities can be sustainable at all
-  Future workshop: Planning a sustainable city
-  Interview with local or regional city planers
-  Excursions
-  Writing an article on the findings for the local newspaper

### IV. Ideas for your own practice

-  Set up citizen monitoring initiatives
-  Adopt a piece of public open space near you for demonstrating water-wise-gardening and soil care
-  Encourage family, colleagues and friends to find out about and participate in local environmental and heritage assessment and planning processes
-  With the consent of a land-owner construct a small but needed demonstration building using local materials and green design principles



## 12. ENSURE SUSTAINABLE CONSUMPTION AND PRODUCTION PATTERNS



### Why this goal?

Humans are consuming more resources than ever before. This is getting to the point where resources are being used up completely. Of course many resources are unable to regenerate themselves. Natural resources form the basis of human life. Consumption and production involves the extraction of natural resources, industrial and agricultural production, transportation, waste management and recycling. It involves both formal and informal economies. Unsustainable patterns of consumption and production have serious implications for development. Equity, empowerment, health and the well-being of humans and ecosystems is adversely affected.

Encouraging industries, businesses, governments and consumers to produce, legislate and consume responsibly is important. Producing without exter-

nalties and consuming responsibly is important for creating more efficient production and supply chains with less environmental and social impact. Efficient management of our shared natural resources including waste disposal and management are important targets to achieve this goal and transform to resource efficient economies.

Much of the population consumes much more than it needs, while others cannot even meet their basic needs. "The general" or "Western" view of sustainable consumption and production (SCP) is that consumption must be reduced and/or sustainably modified. This view is certainly valid for the developed world, and also the more affluent segment in the developing world. However, the concept of sustainable consumption must also include the idea that basic needs are adequately met. This is not yet the case for a large proportion of the population in the developing world. For instance, one in every three malnourished children in the world live in India. About a quarter of India's population does not have assured access to electricity or clean energy. So, sustainable consumption is also about increasing consumption so that basic needs can be met.

Achieving economic growth and sustainable development requires that we urgently reduce our ecological footprint by changing the way we produce and consume goods and resources.

### Reference:

<http://www.undp.org/content/undp/en/home/sustainable-development-goals.html>

<http://www.un.org/sustainabledevelopment/sustainable-development-goals/>

<https://stuffido.wordpress.com/2014/07/04/sustainable-consumption-and-production-a-role-for-esd/>

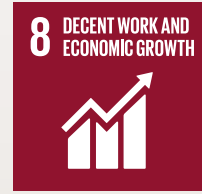


## Story of Change

### The green Tianguis: La Comuna

Surely you have always wanted to go shopping to a place where you can find organic food, but also handmade products of recycled objects, handmade shampoos and soaps, clothing and shoes, traditional drinks, oils, honey, jams, books and clothing; where they do not give you contaminating containers or bags and you can also leave your children in an environmental care workshop while you are listen music and stroll through reforested spaces... Would you like to find a place like this in your city? Although it sounds incredible, there are places like this in Mexico, and they are called "Tianguis". This story will tell you what is done in La Comuna, in the "community", where all this is a reality. The most important thing is that in La Comuna alternatives are sought to the conventional model of production and consumption, which has a great negative impact on the environment and society, since the extraction of raw materials causes economic costs due to pollution, deforestation, drought and erosion of the environment. Excluded are social costs, which occur by dispossession of owners of originally rich territories, whose materials are being extracted. In this system every step of production and consumption causes high and hidden costs which are detrimental to workers and

## Impact on SDGs







damage nature and human health. It also causes interference by corporations in governments and political decisions as advertising is used to persuade people to consume more than necessary. This leads to social and psychological costs, an increase of waste as well as restoration costs to reduce pollution and the production of greenhouses gases.







As opposed to this, green Tianguis like La Comuna, have important criteria to follow. Their activities and products must therefore be: organic, hand-made, local, original, authentic, and be fair trade certified. All goods must be produced locally where possible to avoid transportation costs.

Advertising from all products is supported by free media (public internet and universities or government), and plastic bags or polluted packages are prohibited. All consumers should have their own bags or stay there until they finish the edible products, enjoying the place with their family! La Comuna is promoting educational changes about responsible and informed consumption, motivating the government to change priorities slowly, attending issues like quality of life: healthy food, health, culture and education.









### Reflect

-  When was the Tianguis movement created?
-  Have you ever been to a farmer's market?
-  How are the people of the Tianguis organized?
-  What are the next steps for the Tianguis?
-  How can we create a project like this?





### I. Learning objectives

-  Analyse the stages of the production process of the economic model in which we live and identify the environmental and social impacts generated.
-  Analyse the basic needs of the human being today and consider how these may be met.
-  Identify responsible production and consumption alternatives in the search for a sustainable future.
-  The learner understands how individual lifestyle choices influence social, economic and environmental development.
-  The learner is able to communicate the need for sustainable practices in production and consumption.
-  The learner is able to plan, implement and evaluate consumption-related activities using existing sustainability criteria.




### II. Achieved core competencies of learners

-  Critical thinking competency
-  Systems thinking competency
-  Anticipatory competency
-  Normative competency
-  Integrated problem-solving competency
-  Strategic competency
-  Collaboration competency
-  Self-awareness competency

### III. Ideas to teach

-  Life cycle assessment
-  Conduct a SWOT analyses
-  Interviews with stakeholders
-  Research new information about possible alternatives.

### IV. Ideas for your own practice

-  Attend environmental workshops or lectures and do internet searches to see how successful clean-up campaigns can be.
-  Find out how your local landfill-site is currently being run and how you can work positively with the municipality
-  Buy seafood that is category "green" on the SASSI list

### Useful links

**Tianguis "La Comuna" on Facebook:**  
<http://www.facebook.com/LACOMUNAtianguisceugea>

**Social life cycle assessment of products:**  
[http://www.unep.fr/shared/publications/pdf/DTIx1164xPA-guidelines\\_sLCA.pdf](http://www.unep.fr/shared/publications/pdf/DTIx1164xPA-guidelines_sLCA.pdf)





## 13. TAKE URGENT ACTION TO COMBAT CLIMATE CHANGE AND ITS IMPACTS



### Why this goal?

Climate change is not a future scenario, it is there! And each and every society faces its direct and/or indirect consequences, those in the global "outh" more than those in the n"orth" – still. In spite of that reality greenhouse gas emissions globally continue to rise, and are now more than 50 per cent higher than their 1990 level. Increasing global temperatures will lead to tipping points, which again will cause irreversible changes towards another climate system, which might no longer suit to the needs of homo sapiens. To avoid those long lasting consequences responsible action is needed now.

Climate change is not only causing ecological changes, but enormous economic impact and costs. Billions of dollars are and will be needed annually to invest in disaster risk management and construction alone: St. Louis and Houston

give us an idea about what mitigation to climate change means while the expected dimension of a further heated world will be by far more extreme. Especially vulnerable regions like (small) island states or arid regions need help and support from the world community since they will face the hardest consequences.

It is still possible, with the political will and a wide array of technological measures, to limit the increase in global mean temperature to two degrees Celsius above pre-industrial levels. But this requires urgent collective action.

### Reference:

<http://www.undp.org/content/undp/en/home/sustainable-development-goals.html>  
<http://www.un.org/sustainabledevelopment/sustainable-development-goals/>



## Story of Change

### Leapfrogging Energy Transition

The first step is often the most difficult and yet it is the most important one. Maybe it will turn out that, in some years, the Roundtable discussion on “Energiewende”, which is the German term for the turn from coal-based energy to a renewable energy supply was that first step. Organized by the Heinrich-Böll-Stiftung in Delhi and the Centre for Environment Education, roundtable discussions were held all over India, including Ahmedabad, Bangalore, Delhi, Kolkata and Pune. The Indian energy regime, with its renewable energy potential as well as the challenges faced when implementing renewable energy projects were discussed. National policies and renewable systems were also the focus of the discussion amongst the different stakeholders.

Contrary to Germany energy supply in India is not only concentrated on the means of supply, whether coal-based or renewable, but shows another enormous challenge. More than 300 million Indians do not have access to electricity. How to meet their demand without increasing the CO<sub>2</sub>-emission in an inadequate way is a major challenge? This translates into providing clean, reliable energy while ensuring energy security – the uninterrupted availability of energy sources at an affordable price. This is a challenge! Does this imply that India cannot turn back from the high emission path in the near future because its priority is to provide energy for all? Would that be the right way knowing that the energy policy is linked to the climate policy? Before there were fossil fuels (oil, coal and gas) on earth life was not possible as there was no free oxygen or temperate, habitable, conditions. The earth was also too hot by day and too cold at night for any life to survive. As the fossil fuels were formed so oxygen was released and conditions on the planet became habitable. A true miracle! If we burn the fossil fuels we are reversing the very pro-

## Impact on SDGs



cesses that made life possible. This is why extreme weather events are made so much worse today! Wise people do not destroy their life-supporting capital and no further fossil fuels can be laid down! This seems to be a crucial point. Future developments should not be in conflict with each other. To avoid this, leapfrogging is an exciting option! Why should India repeat the mistakes early industrialized countries did concerning their coal-based energy supply? With a huge leapfrog the country could avoid this and jump into a different, renewable, energy system. This could cover the demand of energy hungry growing population, save enormous amounts of energy costs, reduce energy dependencies on oil or gas exporting partners and mitigate the further increase of global warming processes and related ecological problems. And finally this opens up a chance to find realistic ways for climate mitigation and adaptation.

Could India's situation be a leapfrogging opportunity? The German experience of "Energiewende" offers some lessons and insights into Germany's transition to a low carbon, environmentally sound, reliable, and affordable energy supply which relies on renewables like wind, solar, and hydroelectricity), while giving equal importance to energy efficiency, and energy demand. Imagine if the 74 million rural households in India were able to leapfrog 25 per cent of the population from dirty fossil fuel to clean energy directly by adopting renewable energy-based distributed generation system and contribute to positive climate action? Could India shift from a centralized energy production and distribution to distributed generation by producing power in small household units? It could be possible. We will soon know if these discussions were the turning point we need. The least expensive and probably the best way to avoid catastrophic effects of climate change is to abandon fossil fuels over the next decade and triple the clean energy production by 2050.







### Useful links

Website of "Sustainable Energy for All":  
<http://www.se4all.org/>





Energiewende in Germany on Wikipedia:  
<http://en.wikipedia.org/wiki/Energiewende>

United Nations Framework Convention on Climate Change on Wikipedia:  
[http://en.wikipedia.org/wiki/United\\_Nations\\_Framework\\_Convention\\_on\\_Climate\\_Change](http://en.wikipedia.org/wiki/United_Nations_Framework_Convention_on_Climate_Change)









## Reflect

-  Why did Germany develop "Energiewende"?
-  Is "Energiewende" an example of a first step to integrate climate change measures into energy transition planning?
-  How can the "Energiewende" discussion pave the way for a leapfrogging opportunity to clean energy? Explore the connection between energy and climate change.
-  What does energy security mean?
-  What is the energy situation in your local area and in your state?
-  Where do you see hurdles to realize an "Energiewende" strategy for your country?


## I. Learning objectives

-  The learner understands that the current climate change risks are an anthropogenic phenomenon resulting from the increased greenhouse gas emissions and knows which human activities – on a global, national, local and individual level – contribute to climate change.
-  The learner rationalizes the need for education and awareness-raising as the first step to climate change mitigation, adaptation, impact reduction and early warning.
-  The learner is able to explain ecosystem dynamics and the environmental, social, economic and ethical impact of climate change and is able to encourage others to protect the climate.
-  The learner is able to recognize the significance of raising capacities of countries for effective climate change-related planning and management.

## II. Achieved core competencies of learners

-  Critical thinking competency
-  Systems thinking competency
-  Anticipatory competency
-  Normative competency
-  Integrated problem-solving competency
-  Strategic competency
-  Collaboration competency
-  Self-awareness competency

## III. Ideas to teach

-  Analyse the clean energy reduction of greenhouse gas emissions from various products and services



# 14. CONSERVE AND SUSTAINABLY USE THE OCEANS, SEAS AND MARINE RESOURCES FOR SUSTAINABLE DEVELOPMENT



## Why this goal?

Did you know that every second breath we take is made by the ocean?

The importance of the oceans within the earth system is evident. Their temperature, chemistry, currents and life supporting abilities enable the earth to be habitable for humankind. The changes we cause to the oceans could have a negative impact on our conditions of living. About 40 per cent of the world's population depends on marine and coastal biodiversity for their livelihoods. In spite of these dimension and the true value of the oceans, one third of the world's fish stocks are overexploited in a way which endangers or even ends their ability to regenerate.

But oceans are not only of immense importance for feeding the more than three billion people that live on earth. They also absorb about 30 per cent of the carbon dioxide produced by humans. Without this systemic function within the earth system climate change would already be much more intense. Human actions are also affecting the oceans chemistry and make the oceans more acidic. This means

that they can no longer fulfil their life-supporting role as well as they used to! An increase of 26 per cent of the oceans acidification in the past 200 years is testimony to this impact. Humans also pollute the oceans with hundreds of tons of plastic, oil, and nuclear waste, industrial as well as "civilization" wastes of many kinds. We are now finding (micro) plastic on all shores worldwide, even in the polar regions, as well as in fish, marine mammals and seabirds and finally in our food.

The sustainable management for keeping the coastal and marine ecosystem free from pollution is a vital necessity for future life on earth. Enhanced conservation actions and the sustainable use of ocean-based resources are crucial for the future survival of human-kind.

## Reference:

<http://www.undp.org/content/undp/en/home/sustainable-development-goals.html>  
<http://www.un.org/sustainabledevelopment/sustainable-development-goals/>





## Story of Change

### The curious case of Whali in Mangrol

When Kunal and his friends visit their fishing nets, which they place off the coast of Gujarat, they can see, already from a distance, whether their nets are going to be destroyed or not. Coming closer they see again one of the most impressive species of the oceans: a whale shark. Kunal bows over the edge of his boat, cuts several meters of the net and releases “Whali” to the open sea. Neither his father nor his grandfather would have done this. Rather they would have been delighted at such a huge catch.

In 2004, a spiritual Hindu leader, MorariBapu, addressed the village community of Mangrol, a small settlement on the coast of Gujarat in India, urging them to protect the whale sharks—the largest fish in the sea. Whale sharks reach lengths of 40 feet or more. MorariBapu called it Whali, which means “dear one”. He used the metaphor of a daughter coming to her maternal home just like the Indian custom where a daughter, where possible, delivers her first child in the place of her own childhood. And, of course, nobody would consider harming her.

The Gujarat coastal region is a breeding area of the whale sharks. Whale sharks were being killed by the fishermen for liver oil and meat after getting caught in the nets. The population of the whale sharks on the Gujarat coast dwindled drastically from 1995 to 2000. In 2001, whale sharks were included in IUCN Endangered Species List. The same year, fish species were brought under Schedule I of the Wildlife Protection Act of India. Since then, poaching whale sharks is punishable under the Wildlife Protection Act.

Seeing no abatement in the killings, the Wildlife Trust of India launched a massive public campaign

## Impact on SDGs



– “save the whale shark”. This campaign included the local community, fishermen and MorariBapu. Tata Chemicals stepped in to compensate fisher folks who had to cut their nets to let the big fish get away into deep waters. The compensation benefited both people and the whale sharks.

The campaign led to the protection of 585 whale sharks and became one of the biggest whole community efforts to protect the largest species of fish. And indeed, Mangrol became the world’s largest site for the protection of whale sharks!

The efforts of the village community, fisher-folks, state forest department, international NGOs, and corporates made it possible to protect the whale shark.

### Reflect

- ✿ What is the initial problem, which led to this project?
- ✿ How did the Hindu spiritual leader help the campaign to save the whale shark?
- ✿ What is the general aim of the project?
- ✿ Who came forward to compensate the farmers who had to cut their nets?
- ✿ Which strategy is used to save the whale shark?
- ✿ Why did the guru equate the fish to a daughter?
- ✿ Is the integration of religious beliefs generally helpful in supporting sustainable development?
- ✿ Is it possible to transfer the Mangrol strategy to other parts of the world?

### I. Learning objectives

- ✿ The learner understands the connection of many people to the sea and the life it holds. This includes understanding the sea’s role as a provider of food, jobs and other opportunities. The learner learns about the threats to ocean systems such as pollution and over-fishing and recognizes and can explain the relative fragility of many ocean ecosystems including coral reefs and hypoxic dead zones.
- ✿ The learner is able to show people the impact humanity is having on the oceans (biomass loss, acidification, pollution, etc.) and the value of clean healthy oceans.
- ✿ The learner is able to debate sustainable methods such as strict fishing quotas and moratoriums on species in danger of extinction.

### II. Achieved core competencies of learners

- ✿ Critical thinking competency
- ✿ Systems thinking competency
- ✿ Anticipatory competency
- ✿ Normative competency
- ✿ Integrated problem-solving competency
- ✿ Strategic competency
- ✿ Collaboration competency
- ✿ Self-awareness competency

### III. Ideas to teach

- ✿ Researching habitats and migration routes of whale sharks
- ✿ Creating a concept map around the meaning of the whale shark for the marine ecosystem and humans
- ✿ Discussing connections and affinity of religious beliefs and sustainable development
- ✿ Creating activities and measurements to improve the marine ecosystem

### IV. Ideas for your own practice

- ✿ Base personal consumer choices, especially food and chemicals, on preventing negative marine impacts
- ✿ Explore a snap-shot of the state of the South African Marine Protected Areas by reading: [http://awsassets.wwf.org.za/downloads/final\\_wwf\\_marine\\_report\\_02\\_dec\\_2014\\_web\\_1.pdf](http://awsassets.wwf.org.za/downloads/final_wwf_marine_report_02_dec_2014_web_1.pdf). How could such concepts be applied in your region or country?
- ✿ Develop short courses on the oceans and coast. Arrange for presentations for staff and public on various marine conservation topics

### Useful links

#### Whale Shark Conservation:

<http://mangrovesforthefuture.org/news-and-media/news/india/2015/rising-to-the-challenge-of-whale-shark-conservation>



# 15. PROTECT, RESTORE AND PROMOTE THE SUSTAINABLE USE OF TERRESTRIAL ECOSYSTEMS, SUSTAINABLY MANAGE FORESTS, COMBAT DESERTIFICATION, AND PREVENT LAND DEGRADATION AND BIODIVERSITY LOSS



## Why this goal?

Land provides resources and services that form the basis of life for humans. As with any other creature humans depend on functioning ecosystems. The value of land, terrestrial ecosystems and biodiversity cannot easily be calculated however without such resources human life on earth would become virtually impossible.

Around 80 per cent of our diet is derived from land. We rely on agriculture, for food as well as an important economic resource and means of development. A third of our arable land is affected by degradation and desertification. Around 1.4 billion rural people have to make a living on degraded agricultural lands.

Forests too, provide habitats for in numerous species, many of them still unknown, and supply all of us with clean air and fresh water. Soils are the second largest carbon sink on earth and soil health is crucial for our future sustainability. Healthy and functioning lands and terrestrial ecosystems could serve as important partners to combat climate change.

In spite of knowing all these essential functions for our existence it is humans, who clear forests, degrade soil, pollute water and cause changes to the atmosphere. In this, we are 30 to 35 times more destructive compared to pre-industrial times. The consequences are droughts and desertification, which leads to a loss of 12 million hectares per year. These losses intensify the problems to feed the ever growing world population.

Terrestrial ecosystems with all their biodiversity – whether they are forests, wetlands, drylands or mountains – have to be conserved, restored, protected and used in a way, which does not harm them in their function. It is essential that we strengthen their existence to ensure a solid, reliable and resilient foundation for humans and all living creatures.

## Reference:

<http://www.undp.org/content/undp/en/home/sustainable-development-goals.html>  
<http://www.un.org/sustainabledevelopment/sustainable-development-goals/>



### Story of Change

#### WESSA and uMngeni Valley – Caring for the Earth for over 90 years! Life on land the sustainable way

WESSA established uMngeni Valley as an environmental education field center that has expanded into experiential action learning. The uMngeni Valley is situated just below the famous Howick Falls in KwaZulu-Natal, South Africa. The waters of the 100 meter fall created a steep sided valley that provides an ideal place to study nature and learn how to manage it more sustainably. Since the late 1970's "WESSA uMngeni Valley Nature Reserve" has been managed as an outdoor classroom for learners, teachers and other enthusiastic adults to learn in and about land and the wider environment. Through careful evaluations, designed to strengthen the education processes at the center, weaknesses in the learning ideologies were identified and a more socially engaged methodology was developed. This methodology enables educators and learners to connect with real-life situations. In the past 20 years more than 100.000 participants of all ages, have undertaken Action Learning courses at uMngeni Valley!

Adopting an Action Learning approach has been effective in engaging course participants in better lifestyle choices. These include consuming food that is healthier and has a smaller impact on the earth and its resources. Examples of such programs at the center are the "Enviro-Meal" activity and the "Stream Assessment Scoring System" ([www.minisass.org](http://www.minisass.org)) biomonitoring study. An "Enviro-Meal" is an educational activity which examines some of the choices we make as consumers. In

### Impact on SDGs







particular, choices around food, packaging and waste, which have a negative impact on our environment, are addressed. An introduction and explanation of the Enviro-Meal is followed by participants actively planning a menu, purchasing ingredients and preparing and eating the meal. The meal is then audited on the distance the food travels to get to us as well as our travel to the shop to collect the food in the first place. The audit includes assessing the amount of packaging and the type and origin of the ingredients used. This activity enables participants to engage in a meaningful experience that enables a critical discussion on consumer choices and environmental issues.


The learning and training environment at WESSA uMngeni Valley Nature Reserve has been transformed from a conventional office building and environmental education center to become a “Sustainability Commons”. At the Sustainability Commons staff, course participants and other visitors are able to experiment with sustainability practices through a wide range of “low-carbon” technologies which minimize human impact on land.

Learning at the center does not stop here, but continues through good, better, best “change-choice-practices” and other practical response options. School groups visiting the center are also encouraged to enroll in school-based program such as Water Explorers and Eco-Schools, which create ongoing opportunities for learning when the group has departed.




### Reflect

-  What is WESSA's intention as an organization?
-  What can we learn from uMngeni Valley?
-  Which insights of uMngeni Valley are transferrable to other parts of the world?
-  Is there a similar project in my area?









### I. Learning objectives

-  The learner understands basic ecology with reference to local and global ecosystems. The







learner is able to identify local species and understands the importance of biodiversity.

-  The learner understands the manifold threats posed to biodiversity, including habitat loss, deforestation, fragmentation, overexploitation and invasive species, and can relate these threats to their local biodiversity.
-  The learner is able to argue against destructive environmental practices that cause biodiversity loss and argue for the conservation of biodiversity on multiple grounds including ecosystem services and the intrinsic value of biodiversity.
-  The learner is able to connect with local groups working toward biodiversity conservation in their area.




### II. Achieved core competencies of learners

-  Critical thinking competency
-  Systems thinking competency
-  Anticipatory competency
-  Normative competency
-  Integrated problem-solving competency
-  Strategic competency
-  Collaboration competency
-  Self-awareness competency

### III. Ideas to teach

-  Excursion
-  Watching
-  Identifying connective processes of various natural factors (climate, vegetation and animals,)
-  Creating a concept map on the interrelation of natural factors of the local area
-  reflecting human impact: identifying positive and negative aspects
-  discussing alternative human behavior and therefore impact

### IV. Ideas for your own practice

-  Organize a public showing of the film “Home”: <https://www.youtube.com/watch?v=jqxENMKaeCU>
-  Start a friends group focused on a specific area of high biodiversity or species protection in your local area.
-  Work on becoming a local “expert” and engage with Environmental Impact Assessment and Strategic Environmental Assessment processes, particularly around better land management processes.

#### Useful links

**WESSA: My Carbon Footprint**  
<https://cld.bz/bookdata/FNUnZhe/basic-html/page-1.html>

**WESSA: Stepping up to the Sustainable Development Goals (SDGs)**  
[https://globalactiondays.abae.pt/wp-content/uploads/2017/02/WESSA\\_Stepping\\_up\\_to\\_the\\_Sustainable\\_Development\\_Goals\\_-\\_Jun\\_2016.pdf](https://globalactiondays.abae.pt/wp-content/uploads/2017/02/WESSA_Stepping_up_to_the_Sustainable_Development_Goals_-_Jun_2016.pdf)



## V. Targets

### 15.1

By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements

### 15.2

By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally

### 15.3

By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world

### 15.4

By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development

### 15.5

Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species

### 15.6

Promote fair and equitable sharing of the benefits arising from the utilization of genetic resources and promote appropriate access to such resources, as internationally agreed

### 15.7

Take urgent action to end poaching and trafficking of protected species of flora and fauna and address both demand and supply of illegal wildlife products

### 15.8

By 2020, introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems and control or eradicate the priority species

### 15.9

By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts

### 15.A

Mobilize and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems

### 15.B

Mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to advance such management, including for conservation and reforestation

### 15.C

Enhance global support for efforts to combat poaching and trafficking of protected species, including by increasing the capacity of local communities to pursue sustainable livelihood opportunities

## Personal Notes

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## 16. PROMOTE PEACEFUL AND INCLUSIVE SOCIETIES FOR SUSTAINABLE DEVELOPMENT. PROVIDE ACCESS TO JUSTICE FOR ALL AND BUILD EFFECTIVE, ACCOUNTABLE AND INCLUSIVE INSTITUTIONS AT ALL LEVELS



### Why this goal?

Peace is an essential condition for achieving sustainable development. “There can be no sustainable development without peace and no peace without sustainable development”. We are living in a world that is increasingly unequal and divided. Some regions enjoy sustained levels of peace, security and prosperity, while others fall into seemingly endless cycles of conflict and violence. This is by no means inevitable and must be addressed. Robust governance structures that enforce the rule of law, ensure equal access to justice, eliminate corruption, restrict corporate and criminal interests act as a sound basis for peaceful, just and inclusive societies.

High levels of armed violence and insecurity have a destructive impact on a country’s development, affecting economic growth and often resulting in long standing grievances that can last for generations. Sexual violence, crime, exploitation and torture are also prevalent where there is conflict or no rule of law. Countries must take measures to protect those who are most at risk? The SDGs aim to significantly reduce all forms of violence, and work with governments and communities to find lasting solutions to conflict and insecurity. Strengthening the rule of law and promoting human rights are key to this process, as is reducing the flow of illicit arms and strengthening the participation of developing countries in the institutions of global governance.

Without peace, stability, human rights and effective governance, based on the rule of law, we cannot hope for sustainable development!

### Reference:

<http://www.undp.org/content/undp/en/home/sustainable-development-goals.html>

<http://www.un.org/sustainabledevelopment/sustainable-development-goals/>



### Story of Change

#### For a world where many worlds are included: Schools for peace

Humans are social beings and that means that we live together and cooperate with other people. At times others do not think the same as us. This can generate conflicts. Do you agree that the ability of humans to coexist and cooperate peacefully should be encouraged and even taught? Should we therefore promote schools for peace and the resolution of conflict? Have you ever thought how a school like this could work?

The School of Peace, supported by SERAPAZ in Mexico, is an educational initiative that aims to foster a change in attitude and strengthen the capacity of learners to transform conflicts positively and to be active in the process of positive social change. Do not think about children, but also about social actors (adults and all influential people), who are facing conflicts in different regions in the country. The participants come from social organizations, community radio stations, indigenous communities, civil society organizations, pastoral groups, Christian-based communities and other non-governmental entities.

The Peace School has a flexible curriculum and it is delivered in various ways according to the spe-

### Impact on SDGs



cific needs of the participants. It is offered in four regular modules over the course of a year, these modules are offered through specific workshops, and are held in various regions. The school is sponsored by SERAPAZ, which means “Services and advice for peace”. It is an independent, non-profit Mexican civil society organization providing services for the peaceful transformation of social conflicts through the following areas of work:

- facilitation and networking of community-based processes and initiatives,
- research and publications,
- training,
- consultation as well as
- advocacy and peace-building processes.

SERAPAZ works to reduce the constant increase and polarization of social conflicts as a result of inadequate social structures, which generate inequality and exclusion. With this purpose SERAPAZ fosters dialog with diverse political and social actors involved in cases of social conflict and works with them to achieve solutions. SERAPAZ facilitates initiatives for inclusive dialogues, promotes participatory processes with input from civil society, and seeks to establish new and more positive social relations.

### Reflect

- ✦ What dangers do children face in communities in states of conflict?
- ✦ What do they learn in the school for peace?
- ✦ Can we learn peace?

### Useful links

Serapaz A.C.:  
<http://serapaz.org.mx/>

Action global for conflict transformation:  
<http://action-global.tumblr.com/ActionGlobal>

National citizen observatory:  
<http://onc.org.mx/>

## I. Learning objectives

- ✦ Understand the value of citizens’ freedom and the challenges faced by people living in conflict zones.
- ✦ Generate empathy for others and learn the value of peace and justice in all its forms.
- ✦ Analyze the values of the current society and strengthen just, equitable and free societies.
- ✦ Understand the value of negotiating alternatives in a diverse and complex world.
- ✦ The student will identify and analyze a social conflict of his community, city and country. This is done to help understand interests and positions of those involved. Efforts can be made to generate proposals for a sustainable future.

## II. Achieved core competencies of learners

- ✦ Critical thinking competency
- ✦ Systems thinking competency
- ✦ Anticipatory competency
- ✦ Normative competency
- ✦ Integrated problem-solving competency
- ✦ Strategic competency
- ✦ Collaboration competency
- ✦ Self-awareness competency

## III. Ideas to teach

- ✦ Roleplay
- ✦ Interviews stakeholders
- ✦ Research new information about possible alternatives
- ✦ Field work
- ✦ Debates

## IV. Ideas for your own practice

- ✦ Organize a staff workshop to engage with laws or policy developments that most affect you.
- ✦ Interact with government and private institutions relevant to your core work in a way that promotes accountability, transparency and effectiveness.
- ✦ Support local peace, justice and safety efforts in your local area even if this is not a core interest for you.



# 17. STRENGTHEN THE MEANS OF IMPLEMENTATION AND REVITALIZE GLOBAL PARTNERSHIPS FOR SUSTAINABLE DEVELOPMENT



## Why this goal?

Global partnership and cooperation is the precondition to the realisation of the SDGs. This covers not only financial support but important global partnerships and common efforts to cope with recent global challenges as well as those of the future. At no time in the history of humankind has there been such an opportunity for global interconnectivity as there is today. The worldwide access to communication technology and knowledge enables us to exchange ideas, foster innovation and cooperate, whether this is scientifically, economically, socially or politically. Conditions are very good to

help ourselves and each other to achieve sustainable growth and development. The SDGs aim to enhance North-South and South-South cooperation by supporting national plans to achieve all the targets.

## Reference:

<http://www.undp.org/content/undp/en/home/sustainable-development-goals.html>

<http://www.un.org/sustainabledevelopment/sustainable-development-goals/>



## Impact on SDGs



## Story of Change

## ESD Expert Net: Dialogue and exchange in a global network

Setting up a global network on education for sustainable development and training professionals in ESD was just the start of ESD Expert Net. Today it also includes the creation of a training of trainer's programme, a "Mentoring for ESD-Leadership" programme, the developing of ESD learning and teaching material and the setup of numerous ESD projects such as "Go! Global". The network expanded its capacities and many new international collaboration initiatives have been developed since its foundation in 2009.

The dawning realization that new forms of collaboration are needed to develop sustainable solutions for the complex global challenges of our time inspired the ESD Expert Net. Such solutions need to be embedded in our societies and this is one of the main drivers of the project. Initiated by German institutions of development cooperation in the field of education, the idea is to foster the cooperation of regionally important countries all over the world. Mexico, India and South Africa were thus selected to partner with Germany as partner countries.. The over-riding aim is to implement ESD in the education departments and relevant institutions of the partner countries, such as schools, teacher training colleges or universities. The members of the network share and develop their expertise working for ministries of the environment, ministries of education, non-governmental organizations, universities and other institutions in the field of ESD. Together they are convinced that the capacity to learn and act together across country borders and





continents are core pre-requisites for the initiation of long term changes towards a sustainable future. By following this principle they aim to strengthen capacities of teachers, educators, multipliers as well as graduates and young professionals engaging in education for sustainable development. The network develops transnational concepts and innovative approaches to ESD. These are then adapted to the needs of the national and local context. The global cooperation as well as the single projects and newly upcoming networks within the ESD Expert Net embed the Sustainable Development Goals into their activities and hence contribute to their realization.

### Reflect

- ✦ Which are the main activities of the ESD Expert Net?
- ✦ Who can benefit from the offers made by the ESD Expert Net?
- ✦ What is the concept of the ESD Expert Net?
- ✦ What is the advantage of an international cooperation project on ESD compared to a national one?
- ✦ What are the advantages of integrating new partners into the ESD Expert Net?

### I. Learning objectives

- ✦ The learner understands the importance of global partnerships and the shared accountability for sustainable development
- ✦ The learner recognizes and appreciates co-operations, networks, institutions, campaigns of global partnerships.
- ✦ The learner is able to raise awareness about the importance of global partnerships for sustainable development.
- ✦ The learner is able to contribute to facilitating and implementing local, national and global partnerships for sustainable development.

### II. Achieved core competencies of learners

- ✦ Critical thinking competency
- ✦ Systems thinking competency
- ✦ Anticipatory competency
- ✦ Normative competency
- ✦ Integrated problem-solving competency
- ✦ Strategic competency
- ✦ Collaboration competency
- ✦ Self-awareness competency

### III. Ideas to teach

- ✦ Discussing the necessity of global partnerships in the light of global challenges
- ✦ Discussing local, regional and national responsibilities.
- ✦ Researching success and failure of global partnerships.
- ✦ Evaluating the ESD Expert Net project
- ✦ Creating own ideas for a global partnership to cope with global challenges

### IV. Ideas for your own practice

- ✦ Think globally, act locally. In your day-to-day life, when faced with a decision, ask yourself the question "What would be the most sustainable option to follow here?"
- ✦ Read Sacred Economics by Charles Eisenstein. Explore the ideas of people like Jeremy Rifkin (Capitalism and the Internet of Things) and set up a discussion group to develop a conversation around them
- ✦ The SDGs will prompt countries to develop new laws and policies. For these to be productive and relevant good public participation is essential. Motivate yourself and others to get involved in adopting more sustainable life-style choices.

### Useful links

Website of ESD Expert Net:  
<http://www.esd-expert.net>

## V. Targets

### 17.1

Strengthen domestic resource mobilization, including through international support to developing countries, to improve domestic capacity for tax and other revenue collection

### 17.2

Developed countries to implement fully their official development assistance commitments, including the commitment by many developed countries to achieve the target of 0.7 per cent of ODA/GNI to developing countries and 0.15 to 0.20 per cent of ODA/GNI to least developed countries; ODA providers are encouraged to consider setting a target to provide at least 0.20 per cent of ODA/GNI to least developed countries

### 17.3

Mobilize additional financial resources for developing countries from multiple sources

### 17.4

Assist developing countries in attaining long-term debt sustainability through coordinated policies aimed at fostering debt financing, debt relief and debt restructuring, as appropriate, and address the external debt of highly indebted poor countries to reduce debt distress

### 17.5

Adopt and implement investment promotion regimes for least developed countries

## TECHNOLOGY

### 17.6

Enhance North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation and enhance knowledge sharing on mutually agreed terms, including through improved coordination among existing mechanisms, in particular at the United Nations level, and through a global technology facilitation mechanism

### 17.7

Promote the development, transfer, dissemination and diffusion of environmentally sound technologies to developing countries on favorable terms, including on concessional and preferential terms, as mutually agreed

### 17.8

Fully operationalize the technology bank and science, technology and innovation capacity-building mechanism for least developed countries by 2017 and enhance the use of enabling technology, in particular information and communications technology

## CAPACITY-BUILDING

### 17.9

Enhance international support for implementing effective and targeted capacity-building in developing countries to support national plans to implement all the sustainable development goals, including through North-South, South-South and triangular cooperation

## TRADE

### 17.10

Promote a universal, rules-based, open, non-discriminatory and equitable multilateral trading system under the World Trade Organization, including through the conclusion of negotiations under its Doha Development Agenda

### 17.11

Significantly increase the exports of developing countries, in particular with a view to doubling the least developed countries' share of global exports by 2020

### 17.12

Realize timely implementation of duty-free and quota-free market access on a lasting basis for all least developed countries, consistent with World Trade Organization decisions, including by ensuring that preferential rules of origin applicable to imports from least developed countries are transparent and simple, and contribute to facilitating market access

## SYSTEMIC ISSUES

*Policy and Institutional coherence*

### 17.13

Enhance global macroeconomic stability, including through policy coordination and policy coherence

### 17.14

Enhance policy coherence for sustainable development

### 17.15

Respect each country's policy space and leadership to establish and implement policies for poverty eradication and sustainable development



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