

# Chapter II

## Sustainable development



# 1. Introduction

The United Nations formulated in 2015 the Sustainable Development Goals (SDG). The aim of the launching of the SDG-s was to create a path for a more sustainable development across the globe. It was accepted by more than 150 world leaders, that means a big majority of our the countries across the globe. (Presently in the world are 195 countries)

The UN stressed: "Ours is the last generation which can head off the worst effects of climate change and the first generation with the wealth and knowledge to eradicate poverty. For this, fearless leadership from us all is needed"

We learn from this sentence, that

- we know, where the problem is,
- we have enough knowledge to solve it;
- to be able to achieve this we need cooperation, commitment, action and no fear.

Before we go deeper in the Sustainable Development Goals, first we would like to outline the main milestones, which were eventually resulted in the creation of the Sustainable Development Goals. You can write history for example by describing wars, and crises, but you also could write it, by the development of new terms, ideas, issues, and the reasons of all this, and the disappearing of old ones.

In our era, Sustainable Development is such a term. It did not existed for a long time, and then, suddenly appeared at the end of the 1980-es. One of the disappearing idea is the possibility of unlimited growth.

## 2. The origins of sustainable development

### 2.1. Brandt report:

Already in 1980 was serious concern about how the countries will enter the 21st century. In 1980 an independent commission came together, under the chairmanship of the Austrian chancellor **Willy Brandt**.

The Brandt Commission started its work with the analyse of the development of the World after the 2nd World War. According to this, the world did not developed to the direction, what many people hoped, some pressing problems were still present. The commission made it clear that the world cannot continue with the "business as usual" approach concerning the main global issues, such as poverty, the division of North and South, and the armament.

Their aim was to "...organise as rapidly as possible...an international meeting at the highest level...to discuss North - South emergency matters and...to reach agreements as concrete as possible, on how to turn certain mutual interests into creative partnerships, immediately and for the longer term."

The report concludes that having examined the changes in the global economy and international relations over the past few decades, the world community has not adequately addressed basic issues such as "security and peace, development goals, the monetary system, protection of the environment, energy, and the control of space and ocean resources".

The commission argues that the world economy is functioning so poorly that it is damaging all nations. Over the next two decades, the combination of huge population growth with inflation, erratic exchange rates, protectionism and unemployment will challenge the very survival of humanity.

Yes, the Brandt commission was right in its conclusions.

Some years later Willy Brandt formulated the main problem even more clear:

"A new century nears, and with it the prospects of a new civilization. Could we not begin to lay the basis for that new community with reasonable relations among all people and

nations, and to build a world in which sharing, justice, freedom and peace might prevail?" (Willy Brandt 1983)

It is a very clear, and a very powerful statement. The commission emphasized the issue of mutual interest: The commission set out to prove that the 'principal of mutual interest' can be served, although in order to achieve a true sharing of the world's power and resources, the true motives must be "human solidarity and a commitment to international social justice".

The Brandt commission also put an emphasis of disarmament, to find ways that nations can live peaceful together. As we know, the issue of disarmament was not solve since the end of Cold War. Some years passed, and nowadays the issue of disarmament is explicitly not on the agenda of the Sustainable Development.

**If you are interested, [here you can learn more about the Brandt Report.](#)**

Also in this same period was active the **Independent Commission on Disarmament and Security Issues** (the so called Palme Commission), which was specially focusing on the issue of the consequences of armament and the possibility of disarmament.

## 2.2. Brundtland report: Our Common Future

The United Nations formed the so called Brundtland commission (World Commission on Environment and Development) in 1983 in order to find the answer for some, at then already pressing challenges. The commission compiled the "Report Our Common Future" and it was published in 1987.

The commission got its name after Go Brundtland, the president of the commission, who was formerly the Norwegian Environmental Minister, and later the Norwegian Prime Minister. She was originally specialized in Public Health issues. Her interdisciplinary knowledge and approach was the main reasons that she was asked to for asking her for being the Chair of the Commission. Later she became the director of the WHO.

The main reason of forming this commission was that the United Nation realized the strong decline of natural and human resources.

In 1972 was an UN Conference held on Human Environment (Stockholm). The conference accepted the Stockholm Declaration, which emphasized the strong connection between poverty reduction and environmental protection. This initiative was brought up by the Indian Prime Minister, Indira Gandhi. Although there was attention to the differences between the "rich North" and the "poor South", it also became clear, that at that time, both the rich, and poor countries did not want to change their basic economical practice, which based on the idea of continuous growth. Ten years after the Stockholm conference became clear, that the problems which were there put on the table at, were not solved.

The Brundtland Report states that for environmental conversation it is necessary to realize:

- the development of human resources, in the form of poverty reduction,
- gender equity, and
- wealth redistribution.

The report recognised the environmental limits to the economic growth, existing both in industrialised and industrialising societies. The Brundtland Report claimed that poverty reduces sustainability. One of the main criticisms on the report is: that it not identified the modes of production that is responsible for degradation of the environment. It did not speak about for example the harmful effects of industrial agriculture, cheap clothing production, the continuous growth of waste material due to bottled water and soft drinks industry, etc.

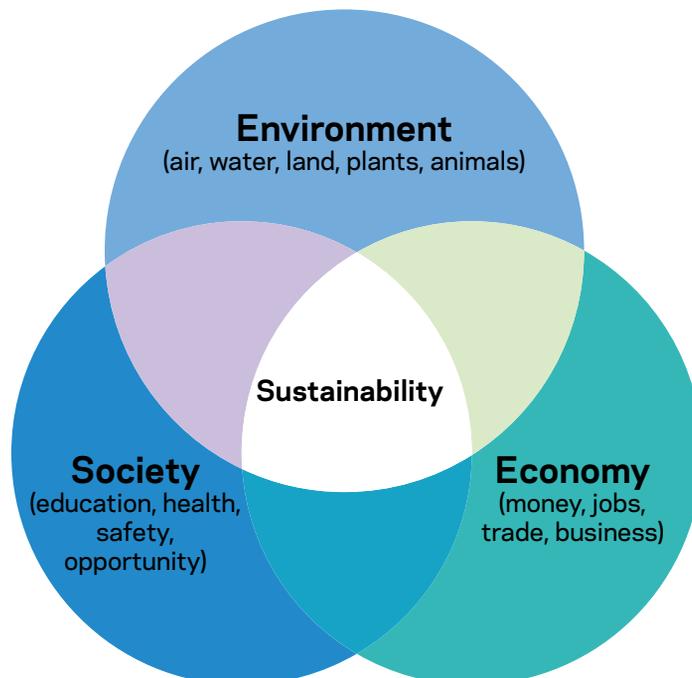
**Our Common Future states:**

The environment where we live in, and the actions, which we carry out in order to make our life better, are not possible to separate. So it was the invention of the Commission to unite the issue of Development and the issue of Environment. The report stated: ‘...the "environment" is where we live; and "development" is what we all do in attempting to improve our lot within that abode. The two are inseparable.’ So the definition of Sustainable Development is: our actions are serving the needs of the present time, in a way, that it also future generations will be able to realize their needs.

Nevertheless the Report emphasized, that in the developed countries have (or ought to have) limits to their economic growth. The main starting point of the concept of Sustainable Development was the recognition of Human Needs. According to this, the basic needs of the World’s poor ought to have priority. In order to reach these aims putting limits to economic growth and consumption would be the task of the National Governments. According to this, the Sustainable Development is a **threefold concept**, wherein: **economy, environment and society are equally important**.

‘The definition of Sustainable Development is: our actions are serving the needs of the present time, without compromising the ability of future generations to meet their own needs.  
Future generations will be able to realize their needs.

One of the main achievements of the Bruntland commission was, that was able to break with pure “environment protection”. Furthermore, it created a meaningful framework for the three elements: economy, environment and society.

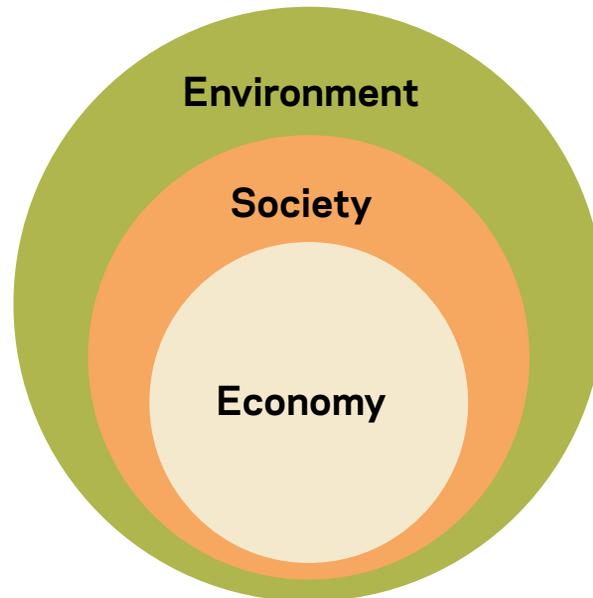


The interconnection of Environment, Society and Economy

On this illustration we can see, that Sustainability comes about, when Environment, Society and Economy are equally present, equally important.

It is desirable to come to a way of living, when in the Environment are Society and

Economy embedded. This forms also a kind of hierarchy, where Environment is more important than Society, and Society is more important than Economy. In our present systems, the hierarchy is the other way around, Economy is more important than Society and Society is more important than environment.



**Embedded model of Environment, Society and Economy**

The concept of embedness is actually originated from an economic theorist from 20<sup>st</sup> century. Karl Polanyi wrote his book “The Great Transformation” just before the end of the 2nd World War, already as an answer on the supremacy of market economy. He stated that market economy works with putting economy at the first aim. On the long run that has the consequence that economical interest and activity will “eat up” society. He argued that economy is not possible without people therefore it is also not possible (finally) that economy can keep its priority above society and environment. Therefore economy has to be embedded in the society, and not the other way around. He also investigated the most favourable forms of economic activity. He showed that forms, which were based on reciprocity and exchange were durable forms. His findings were valued by the important economists of our time as well. It was republished in 2001 and Stiglitz, the economist, whose work developed in the direction of founded criticism of the market economy. The contributors to this new edition stated, that there are “books that are refuse to go away”. Stiglitz and Fred Block wrote a teaching introduction to the new publishing. “There is a good explanation for this durability. The Great Transformation provides the most powerful critique yet produced of market liberalism—the belief that both national societies and the global economy can and should be organized through self-regulating markets. Since the 1980 s, and particularly with the end of the Cold War in the early 1990 s, this doctrine of market liberalism—under the labels of Thatcherism, Reaganism, neoliberalism, and “the Washington Consensus”—has come to dominate global politics.” - writes Block.

[If you are interested in this exciting topic, you can read this article](#)

[You can also find online a free pdf version of the book, here](#)

Theoretically many do agree with this concept, but it is still almost impossible to find an example, when the three principles would be realized equally by a country and or even by a single initiative. Furthermore, most of the countries (and companies) put at the first

place the economic side. By doing this, the other two elements are getting injured. So, we can conclude, the Sustainable Development is very rarely is practiced.

The world is still extremely unequal, with the richest 1% of the world's population owning 40% of the world's wealth and the poorest 50% owning around 1%.

Recent other data are showing an even sadder picture. According to a Report of Oxfam of 2016, the 62 richest people of the world own more than the other 50 % of the world population. This is a worrying tendency, as according to the same report in 2010 were 388 people with the same amount of wealth<sup>1</sup>.

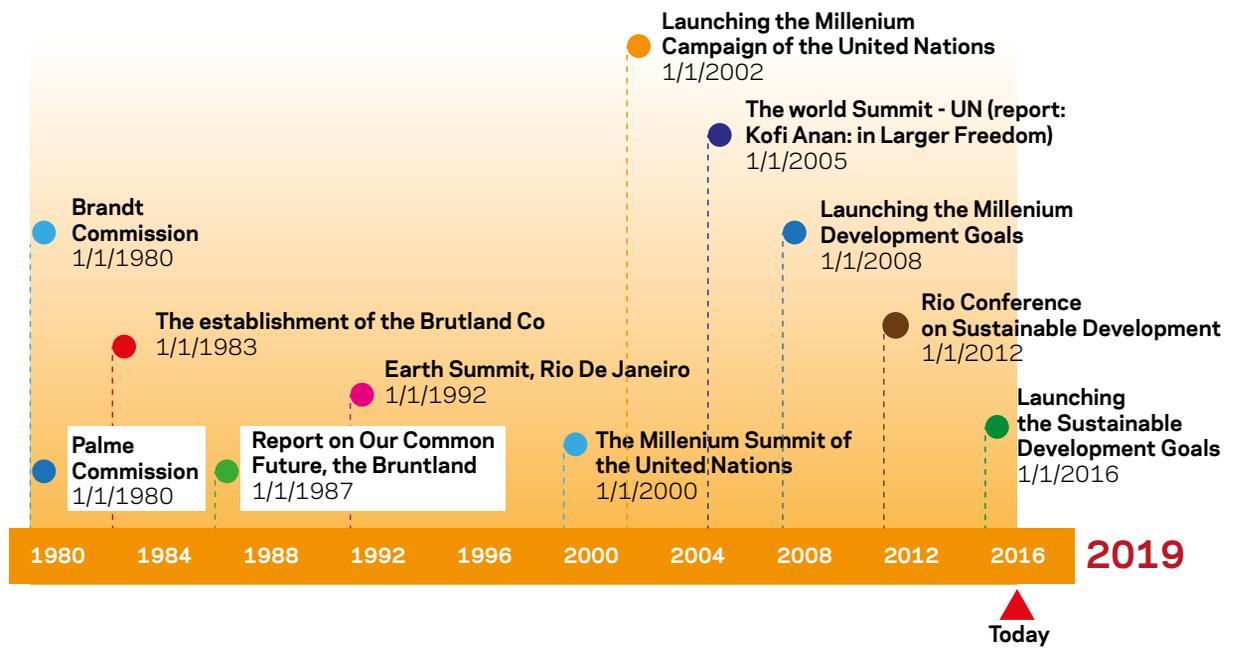
<sup>1</sup> BBC News, 18 January 2016: Oxfam says, wealth of the richest 1 % equals to other 99 %

It is important to take away the focus from the one sided economic priority. Although for example the last years were more and more capital invested in the renewable energy production and consumption, this fact did not change the existing difference in the level of consumption. According to this, the 20 % of the world population uses the 80 % of the natural resources. Also regarding social equality it did not change for better, rather it got worse, the differences among people with different income, did not decreased.

As the poor people of the world usually live in rural settings, it is important to mention, that rural poverty is also connected to the ownership of the land. While most of the poor are living in rural settings, they do not own any land.

The issue of land- ownership is connected to the ability of small scale food production, the ability of using agro-ecological practices, and healthy rural communities.

**After the publishing Brundtland Report**, it was a long path, before we arrived at the Sustainable Development Goals. Here we give a short overview, of the major international happenings.



Timeline of Sustainable Development © Butterfly Development

## 2.3. The Earth Summit:

Twenty years before the Rio conference (2012) in 1992 was another summit held also in Rio de Janeiro. Its short name was the Earth Summit, another UN conference. Its main message was that the transformation of our behaviour and attitude is absolutely necessary to reach the necessary changes.

In 1992 the Earth Summit focused mainly on Environment and Development. During this conference is formulated the Agenda 21, and it outlined 27 not binding principles for global development. About the carbon dioxide emissions there is a separate binding declaration accepted.

The main aim of the conference was to define ways of pursuit of economic development in ways that would protect the Earth's environment and resources.

The Earth Summit accepted the Agenda 21, which stresses the responsibilities of individual States concerning the following issues:

- Human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature;
- It is important to prevent environmental degradation where there are threats of serious or irreversible damage;
- That States have a sovereign right to exploit their own resources, but States do not have the right to cause damage to the environment of other States;
- That eradicating poverty and reducing disparities in worldwide standards of living are "indispensable" for sustainable development;
- That the full participation of women is essential for achieving sustainable development; and
- That the developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command.

### Results of the Earth Summit:

- Patterns of production — particularly the production of toxic components, such as lead in gasoline, or poisonous waste — will be investigated in a systematic manner by the UN and Governments alike;
- Alternative sources of energy are being sought to replace the use of fossil fuels which are linked to global climate change;
- New reliance on public transportation systems is being emphasized in order to reduce vehicle emissions, congestion in cities and the health problems caused by polluted air and smog;
- There is much greater awareness of and concern over the growing scarcity of water.

### Follow up of the Earth Summit:

The UN decided, that implementation of the **Agenda21** has to be monitored. Each sector specifically, namely issues related to health, human settlements, freshwater, agriculture, toxic chemicals, etc.

## 2.4. Rio Summit:

In 2012 was held the so called **Rio Summit**, a UN in Rio de Janeiro, Brazil. The Rio Summit decided the creation of the Sustainable Development Goals, which will follow up the Millennium Development Goals after 2015.

**HINTS:** In the background section you can read the Millennium Development Goals

**The 8 original Millennium Development Goals were the following:**

**The 8 Millennium Development Goals (MDG):**

1. To eradicate extreme poverty and hunger
2. To achieve universal primary education
3. To promote gender equality and empower women
4. To reduce child mortality
5. To improve maternal health
6. To combat HIV/AIDS, malaria, and other diseases
7. To ensure environmental sustainability
8. To develop a global partnership for development

The Rio Summit was also very important, that it formulated for the first time guidelines on green economy and green economy policies.

**HINTS:**

About green economy you can read more in detail in this chapter. Here we mention it because its first appearance.

**Green economy means that an economy has to be**

- green,
- efficient
- fair

It is an economy, which makes possible the transition to low-carbon, resource efficient and socially inclusive economy. It aims the direct valuation of natural capital and ecological services. The concept of the green economy was adapted by the UN. The UN also compiled a document titled: Green Economy and Knowledge Products. It summarizes possible green and sustainable practices at different sectors.

**[READ THE PDF](#)**

## 3. The Sustainable Development Goals:

The United Nations formulated in 2015 the Agenda for “Transforming our World: the Agenda 2030 towards Sustainable Development”. This resolution is Successor of the Millennium Development Goals, which were formulated in the beginning of the 21<sup>st</sup> century.

In this section first we list all the SDG's. After that, we will investigate each goal separately. We will give a simple description of the goals, and we will give some basic data as well. Still, the most important is, that we search in ourselves, in our community, how relevant each SDG is for us. Therefore we provide after the SDG's some simple exercises.

**The 17 Sustainable Development Goals (SDG):**

- Goal 1.** End poverty in all its forms everywhere
- Goal 2.** End hunger, achieve food security and improved nutrition and promote sustainable agriculture
- Goal 3.** Ensure healthy lives and promote well-being for all at all ages
- Goal 4.** Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
- Goal 5.** Achieve gender equality and empower all women and girls
- Goal 6.** Ensure availability and sustainable management of water and sanitation for all
- Goal 7.** Ensure access to affordable, reliable, sustainable and modern energy for all
- Goal 8.** Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
- Goal 9.** Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

- Goal 10.** Reduce inequality within and among countries
- Goal 11.** Make cities and human settlements inclusive, safe, resilient and sustainable
- Goal 12.** Ensure sustainable consumption and production patterns
- Goal 13.** Take urgent action to combat climate change and its impacts
- Goal 14.** Conserve and sustainably use the oceans, seas and marine resources for sustainable development
- Goal 15.** Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
- Goal 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
- Goal 17.** Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development

The aim The Sustainable Development Goals is to change the most basic problems before the 2030. Here we will give an overview of each goal.



**HINTS:**

If you are interested in more detail about the SDG's, you can go to the [website](#), and find more detailed information both about the aims, and the current state of realization.

Studying them, it will give you both the basic problems, and the directions to solve them. We also think, it will give you inspiration in your local actions.

Below we will go through each goal, and we give you also some exercises, so that you can relate them directly to your life situation.

The Sustainable Development Goals in detail:

**1 - End poverty in all forms everywhere:**

The poverty line is 1.90 \$ a day. In the beginning of the 21st century more than 760 million people of the population, this number was in 1999 1,7 billion people thus there is decrease, due to social protection measures in developing countries. Africa is still a missing link. Children are at the most risk: Globally daily 18000 children die of poverty related causes.

Disaster risk reduction is also essential for sustainable development. Disaster risks are also higher in developing countries.

In Europe we also know poverty, although generally in less extreme forms. Still in Europe there are some countries where extreme poverty is present, mostly in disadvantaged

regions, rural population is affected. In Central - East Europe, rural Roma population is often lives in extreme poverty.

**Think of it:**

How far is this issue important in your region/country? Is organic food available? Is there demand for organic food? Are there enough producers to meet the demand?

**2 - End hunger, achieve food security and improved nutrition and promote sustainable agriculture:**

This goal commits to universal access for safe, nutritious and sufficient food at all the times of the year. Globally, there is some good shift. The prevalence of hunger has declined, from 15% from 2000-2002, to 11% according to figures for 2014-2016. However, more than 790 million people worldwide still lack regular access to adequate amounts of dietary energy. If current trends continue, the zero hunger target will be largely missed by 2030.

2014, nearly 1 in 4 children under the age of 5, an estimated total of 159 million children, had stunted growth.

Ending hunger and malnutrition depends on sustainable food production systems and resilient agricultural practices. One of the targets for Goal 2 calls for correcting and preventing distortions in world agricultural markets, including the elimination of all forms of agricultural export subsidies. Those subsidies mask market signals, reduce competitiveness and can lead to environmental damage and the inequitable distribution of benefits.

The realization of this aim will result in, that industrial agriculture will be less popular, and also that organic agriculture products will be more available, and less expensive for consumers.

**Think of it:**

How far are issues of polluted water / soil important in your country / region? What do you think, what are the best ways for communities to gain information about pollution? Are these information easily available? Are there any community actions in your neighborhood for pollution-reduction? Are you a member of them? How could you join?

**3 - Ensure healthy lives and promote well-being for all at all ages:**

Unhealthy environmental conditions increase the risk of both non communicable and infectious diseases, which is reflected in the strong integrated nature of the Goals. In 2012, an estimated 889,000 people died from infectious diseases caused largely by faecal contamination of water and soil and by inadequate hand-washing facilities and practices resulting from poor or non-existent sanitation services. In 2012, household and ambient air pollution resulted in some 6.5 million deaths.

The healthy food, produced according to the principles of green economy are also contributing to maintaining health and preventing modern diseases.

**Think of it:**

How is this in your country? The Pisa test regularly investigates the real skills of children. What are the results of your country? How are these results connected to the realization of the SDG's? What connection do you see?

**4 - Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all:**

Despite progress, the world failed to meet the Millennium Development Goal of achieving universal primary education by 2015. In 2013, the latest year for which data are available, 59 million children of primary-school age were out of school. At the end of primary school, children should be able to read and write and to understand and use basic concepts in mathematics, which is still at large numbers is missing

**Think of it:**

In the European countries gender equality is guaranteed by law. We know, that equality before the law, does not necessary mean, equality in the reality as well. How gender equality is realized in your country / in your region? What do you experience / opinion: different forms of violence against women how are these present in your country / region / environment.

**5 - Achieve gender equality and empower all women and girls:**

Gender equality and women's empowerment have advanced in recent decades. Nevertheless, gender equality remains a challenge for countries worldwide and the lack of such equality is a major obstacle to sustainable development. Assuring women's rights through legal frameworks is a first step in addressing discrimination against them. As of 2014, 143 countries guaranteed equality between men and women in their constitutions; another 52 countries have yet to make this important commitment.

**Think of it:**

Is in your region / country are people sometimes experience water shortage? Does agriculture for example experiences lack of irrigation water?

<sup>2</sup> <http://www.bbc.com/news/world-42982959>

**6 - Ensure availability and sustainable management of water and sanitation for all:**

Issues relating to drinking water, sanitation and hygiene are the very core of sustainable development, they ensure the quality and sustainability of water resources worldwide. Globally in 2015 4.9 billion people had an improved sanitation system, but 2.4 billion people did not. It is about having enough drinking water, and also fresh water. Effective water and sanitation management also depends on the participation of stakeholders. The availability of water causes problem for some developed countries as well.<sup>2</sup>

**Exercise: What are the ways to reduce consumption of fresh water?**

The more detailed description of this exercise you can find in the section Exercise:

- Make a brainstorming in your group, how could you use less fresh water in households? What could be the solutions which individuals can carry out, and solutions which can be carried out at the level of municipality?
- How could you use less water for agriculture?
- How water consumption is connected to food waste?
- What would you do, if for example a week, you will be not in the position to flush your toilet? What actions could you make?

Did you know, that among the 11 big cities, which will likely will have water shortage in the near future are Miami, Moscow, London as well?

Did you know that Cape town has already in 2017 a serious water shortage? Can you image not to flush your toilet?<sup>3</sup> That is happening already there.

<sup>3</sup> <https://www.nytimes.com/2017/12/27/travel/water-crisis-cape-town-travelers.html>

**7 - Ensure access to affordable, reliable, sustainable and modern energy for all:**

The proportion of the global population with access to electricity has increased steadily, from 79% in 2000 to 85% in 2012. Still, 1.1 billion people are without electricity.

The aim is to use more and more renewable energy, and at the same time to use less energy for industrial purposes. The share of renewable energy (derived from hydropower, solid and liquid biofuels, wind, the sun, biogas, geothermal, marine sources, and waste) in the world's total final energy consumption has increased slowly, from 17.4% in 2000 to 18.1% in 2012.

Energy intensity, calculated by dividing total primary energy supply by GDP, reveals how much energy is used to produce one unit of economic output.

Globally, energy intensity decreased by 1.7% per year from 2010 to 2012. Still, current progress is only about two thirds of the pace needed to double the global rate of improvement in energy efficiency.

**Exercise:**

- How can you reduce the use of your own energy? Brainstorm about it in your household or in a small group?
- How could you calculate your eventual savings, in a year? What could you do with your savings?
- How much energy could you save, if you make a "community pledge" with about 20 people from your village /town?

**8 - Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all:**

Sustained and inclusive economic growth is necessary for achieving sustainable development. The global annual growth rate of real GDP per capita increased by 1.3% in 2014, a significant slowdown compared to 2010 (2.8% growth) and 2000 (3.0 per cent growth). Developing regions grew far faster than developed regions, with average annual growth rates in 2014 of 3.1%.

Labour productivity (measured by GDP per worker) spurs economic growth.

Growth in labour productivity in developing regions far outpaced that of developed regions, especially in Asia.

The global unemployment rate stood at 6.1 per cent in 2015, down from a peak of 6.6 per cent in 2009, mostly owing to a decline in unemployment in the developed regions. Globally, women and youth (aged 15 to 24) are more likely to face unemployment than men and adults aged 25 and over.

Although the number of children engaged in child labour declined globally by one third from 2000 to 2012 (from 246 million to 168 million), more than half of child labourers in 2012 (85 million) were engaged in hazardous forms of work.

**Exercise:**

- Remember what you have read before. Can sustainable development really be based on continuous economic growth?
- Make a brainstorming session: make an assessment of your personal habits, or the habits of your household, which of these are based on consumption society behaviour, and which are more sustainable?

**9 - Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation:**

Infrastructure provides the basic physical systems and structures essential to the operation of a society or enterprise. Industrialization drives economic growth, creates job opportunities and thereby reduces income poverty. Innovation advances the technological capabilities of industrial sectors and prompts the development of new skills. In 2014, 45% of all air passengers originated from developing regions; 55% originated from developed regions.

Manufacturing is a foundation of economic development, employment and social stability. In 2015, the share of manufacturing value added in terms of GDP of developed regions was estimated at 13%. In developing countries, small-scale industries accounted for an estimated 15% to 20% of value added and 25% to 30% of total industrial employment in 2015.

As the structure of world economies shifts to less energy-intensive industries and countries implement policies for enhanced energy efficiency, almost all regions have shown a reduction in carbon intensity of GDP.

Innovation and the creation of new and more sustainable industries are spurred by investments in research and development.

Mobile cellular services have spread rapidly around the world, allowing people in previously unconnected areas to join the global information society. By 2015, the percentage of the population living in areas covered by mobile broadband networks stood at 69% globally. In rural areas, the share was only 29%.

**Exercise:**

- How far is in your region small scale employment present?
- Do you have any idea how can be increased the ratio of small scale employment in your region? Are there ways of how can you contribute to this?

### 10 - Reduce inequality within and among countries:

This Goal calls for reducing inequalities in income as well as those based on age, sex, disability, race, ethnicity, origin, religion or economic or other status within a country. The Goal also addresses inequalities among countries, including those related to representation, migration and development assistance. It seeks to ensure that income growth among the poorest 40 per cent of the population in every country is more rapid than its national average.

Preferential treatment for developing countries and the least developed countries in trade can help reduce inequalities by creating more export opportunities.

Besides tackling global inequalities, this goal is also about inequality within countries.

#### Exercise:

- Who are the poorest group within your country / region?
- Do you know about any plans /initiatives of poverty reduction, which are at the same serving sustainable development as well?

### 11 - Make cities and human settlements inclusive, safe, resilient and sustainable:

More than half the world's population lives in cities. Despite numerous planning challenges, well-managed cities and other human settlements can be incubators for innovation and ingenuity and key drivers of sustainable development. However, as more people migrate to cities in search of a better life and urban populations grow, housing issues intensify. Already in 2014, 30 per cent of the urban population lived in slum-like conditions.

Likewise, managing solid waste is often problematic in densely populated areas. In fact, in many developing regions, less than half of solid waste is safely disposed of. As per capita waste generation continues to rise, the collection and safe disposal of solid waste will continue to require serious attention.

Urban air pollution also challenged cities around the world, causing illness and millions of premature deaths annually.

The quest for sustainable and coordinated urban development starts with national policies and regional development plans.

This is the point of Sustainable Communities. In the concept of Sustainable Communities all the issues can be connected. We know that at the level of huge cities people have less possibility of direct influencing their communities than in villages, towns, smaller communities. Are there ways to turn your village / town to a sustainable community.

#### Exercise:

- Make a brainstorming within your community what could be the most important acts to create in your community a more sustainable way of consumption?
- During your brainstorming session you surely created a long list.
- You can decide to create an informal action group to realize some of these aims. Waste and consumption reductions are usually more easy to realize. Inspirational ideas you can find also on the internet, but of course you can ask around.

### 12 - Ensure sustainable consumption and production patterns:

Sustainable growth and development require minimizing the natural resources and toxic materials used, and the waste and pollutants generated, throughout the entire production and consumption process.

Two measures, material footprint and domestic material consumption, provide an accounting of global material extraction and use, as well as flows or consumption of materials in countries. In 2010, the total material footprint in developed regions was significantly higher than that of developing regions, 23.6 kg per unit of GDP versus 14.5 kg per unit of GDP, respectively. Domestic material consumption in developed regions has diminished slightly, from 17.5 tonnes per capita in 2000 to 15.3 tonnes per capita in 2010. It remains significantly higher than the value for developing regions, which stood at 8.9 tonnes per capita in 2010.

#### Exercise:

- Make an assessment: do you know, among the things what you consume what toxic materials are present? In your household chemicals? In your food for example?
- What choices do you have to change this?

### 13 - Take urgent actions to combat climate change and its impacts:

Climate change presents the single biggest threat to development, and its widespread, unprecedented impacts disproportionately burden the poorest and most vulnerable.

The global nature of climate change calls for broad international cooperation in building resilience and adaptive capacity to its adverse effects, developing sustainable low-carbon pathways to the future, and accelerating the reduction of global greenhouse gas emissions. On 22 April 2016, 175 Member States signed the Paris Agreement under the United Nations Framework Convention on Climate Change. The new agreement aims to reduce the pace of climate change and to accelerate and intensify the actions and investments needed for a sustainable low-carbon future.

As parties scale up climate change action, enhanced cooperation, capacity-building and access to financial and technical support will be needed to help many countries realize their priorities, including those identified in intended nationally determined contributions and national adaptation plans.

#### Exercise:

- How is your country / region affected by climate change? Do you remember how was it 20 or 30 years ago?
- How are the changes, which you experience related to the latest big climate news? (For example the extraordinary hot summer in Australia, and the extraordinary winter in the United States in 2017)
- You could also create a "story telling" archive about the climate change in your community, by asking older people about their memories. It is fun, it is learning, and you can also create a blog from the material you collected. This can be a nice start for other common activity.
- Is in your community a lot of air conditioning is used? How can you reduce the use of it?

#### **14 - Conserve and sustainably use the oceans, seas and marine resources for sustainable development:**

Oceans, along with coastal and marine resources, play an essential role in human well-being and social and economic development worldwide. They are particularly crucial for people living in coastal communities, who represented 37 per cent of the global population in 2010. Oceans provide livelihoods and tourism benefits, as well as subsistence and income. They also help regulate the global ecosystem by absorbing heat and carbon dioxide from the atmosphere and protecting coastal areas from flooding and erosion.

Pollution of both land and seas is a threat in many coastal regions.

Since the beginning of the industrial revolution, the ocean has absorbed about one third of the carbon dioxide released by human activities, thereby mitigating the full impact of climate change. However, this comes at a steep ecological price, as dissolved carbon dioxide in seawater lowers the pH level of oceans, thereby increasing acidity and changing the biogeochemical carbonate balance.

Fisheries contribute significantly to global food security, livelihoods and the economy. However, if not sustainably managed, fishing can damage fish habitats.

#### **Exercise:**

Collect some examples (you can also use internet) of how countries or settlements, which are not at the ocean and seas how are contributing to the pollution of the seas and oceans. (You can use the internet. Think for example of "floating plastic and floating garbage islands.")

#### **15 - Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss:**

This Goal focuses specifically on managing forests sustainably, restoring degraded lands and successfully combating desertification, reducing degraded natural habitats and ending biodiversity loss.

Between 1990 and 2015, the world's forest area diminished from 31.7% of the world's total land mass to 30.7%. The global net loss of forest area declined from 7.3 million hectares per year in the 1990s to 3.3 million hectares per year during the period from 2010 to 2015.

Protected areas have been established and identified as key biodiversity areas. In 2014, 15.2% of the world's terrestrial and freshwater environments were covered by protected areas. Halting biodiversity loss comes at a critical time, since many species of amphibians, birds and mammals are sliding towards extinction. Since 1999, at least 7,000 species of animals and plants have been detected in illegal trade, and the list of species under international protection continues to grow.

#### **Exercise:**

- Do you have any idea how to plant trees in your environment? (In your village, along the roads?) What would you rather plant? Fruit trees or any other kind of tree? How could you find others to help you? How could you take care about the newly planted trees? How realistic do you find this?
- Do you know that India for example decided to plant 66 million trees in 2017?<sup>4</sup>
- Do you know that previous to this nationwide tree-planting initiative, there were many civic initiatives in India?<sup>5</sup>
- Do you know any European example?
- Do you know about regions (micro-regions) in your country which was previously forests, and now are barren lands?

<sup>4</sup> <http://www.independent.co.uk/news/world/asia/india-plant-66-million-trees-12-hours-environment-campaign-madhya-pradesh-global-warming-climate-a7820416.html>

<sup>5</sup> <https://www.thebetterindia.com/109828/10-common-people-individual-effort-tree-plantation/>

- Did you heard about the “edible forests”? How do you like the idea?

**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:**

Peace, justice and effective, accountable and inclusive institutions are at the core of sustainable development. Many countries still face protracted armed conflict and violence. The worldwide number of victims of intentional homicide was estimated to be between 4.6 and 6.8 per 100,000 people in 2014.

The rate in developing countries was twice that in developed countries, and increased in the least developed countries. Various forms of violence against children are pervasive, including discipline that relies on physical punishment and psychological aggression. Sexual violence is one of the most unsettling of children’s rights violations. Yet underreporting and the lack of comparable data limit understanding of the full extent of the problem.

Globally, the proportion of people held in detention without sentencing decreased slightly. Registering children at birth is a first step in securing recognition before the law and safeguarding individual rights and access to justice. Despite recent progress, the births of more than 1 in 4 children under the age of 5 worldwide have not been recorded. Efforts are under way to make national and international institutions more effective, inclusive and transparent.

A free press is closely linked to access to information and the protection of human rights, but the trend in this regard is discouraging.

The proportion of countries with national human rights institutions has doubled over the past 15 years, reaching 35.5 % by the end of 2015.

Local and national democracy can also closely be connected to Sustainable Development.

**Exercise:**

- Do you have any idea, how decision making in your community favours or not Sustainable Development practices?
- Do you have any idea how to influence local Governance in this direction?

If you are interested to learn about community development methods, please go to the METHODOLOGY part of this toolkit.

**17 - Strengthen the means of implementation and revitalize the global partnership for sustainable development:**

Achieving the ambitious targets of the 2030 Agenda requires a revitalized and enhanced global partnership that brings together Governments, civil society, the private sector, the United Nations system and other actors and mobilizes all available resources. Enhancing support to developing countries, in particular the least developed countries and the small island developing States, is fundamental to equitable progress for all.

This means support in finance; information and communications technology; capacity building; trade; data, monitoring and accountability systems.

Partnership and cooperation are very important for the realization of Sustainable Development. Global and national partnerships are very important, but equally are important the partnerships based on community engagement. True partnership is about learning, sharing, inspiration, exchange.

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**Exercise:**

- Think of it: What kind of partnership could be helpful for your community?
  - With whom could you start to exchange?
- 

**Exercise:**

Form small groups and look at the 17 SDG's. Discuss it with each other, and decide, which are the five most relevant SDG-es in your municipality?

Do you know in your municipality are there any programs / actions concerning SDG-es? If yes, which ones?

In which area could you start a small scale activity?

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## 4. Ecosystem:

**HINTS:**

**If you are interested in more depth in the ecosystem**

please go to the section **Background**, and look up the section Millennium Ecosystem Assessment.

The ecosystem is a term, which is also closely connected to Sustainable Development, rural issues, and food security, therefore we will give a bit more detailed overview for you about this topic.

Ecosystem is "a whole system, ... including not only the organism-complex, but also the whole complex of physical factors forming what we call the environment." Ecosystems have no fixed boundaries; instead their parameters are set to the scientific, management, or policy question being examined. Depending upon the purpose of analysis, a single lake, a watershed or an entire region could be considered an ecosystem.

The term "ecosystem" was coined by a British ecologist Arthur Transley, in 1935. The reason of the creating of this new term was that he wanted to draw attention to the importance of transfers of materials between organisms and their environment. The whole system of plant, animal, fungal, and microorganism communities and the non-living environment are interacting as an ecological unit.

Connected to ecosystem, is also a quite new term emerged, which we call **ecosystem services**. By coining this term, environmental experts wanted to draw attention to the economical and practical benefits of a healthy ecosystem. We use the "services of nature", we use the oxygen, the fresh water, etc, meanwhile we cause harm to it. That makes impossible to regenerate for the ecosystem, and that makes it impossible that we can use its services a long term.

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**Exercise: "Walking around" ecosystem assessment:**

We advise this as a group exercise, although you can make the first part individually as well. Decide for a walking path, of 1- 1,5 hour. Take with yourself a notebook. Make a note of everything (every object), which you encounter during your walk, and simply divide them in 2 groups: natural and not natural. After you finished your walk, summarize both types.

When you come together with your group again, discuss what you have found. Is there anything what you would like to change? Would you like to see more trees? Would like to see less rubbish? Can you do anything about it?

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## 5. Millennium Ecosystem Assessments :

Human well-being is highly dependent on ecosystems and the benefits they provide such as food and drinkable water. Over the past 50 years, however, humans have had a tremendous damaging impact on their environment.

The Millennium Ecosystem Assessment gives an overview of the present state, and it is based on a scientific study about the state of the planet.

### 1. How have ecosystems changed?

- 1.1 Virtually all of Earth's ecosystems have been significantly transformed through human actions. Changes have been especially rapid in the last 50 years and today the fastest changes are taking place in developing countries.
- 1.2 Ecosystems depend on fundamental environmental cycles such as the continuous circulation of water, carbon, and other nutrients. Human activities have modified these cycles.
- 1.3 Many animal and plant populations have declined in numbers, geographical spread, or both.

### 2. How have ecosystem services and their uses changed?

- 2.1 Ecosystem services are the multiple benefits provided by ecosystems to humans.
- 2.2 Human use of all ecosystem services is increasing:
  - The use of resources such as food, water, and timber has increased rapidly, and continues to grow, sometimes unsustainably.
  - Human interventions have led to changes in the regulation of climate, disease, and other ecosystem processes.
  - The use of ecosystems for recreation, spiritual enrichment, and other cultural purposes is growing.
- 2.3 Biodiversity reflects the number, variety and variability of living organisms in an ecosystem.

### 3. How have ecosystem changes affected human well-being and poverty alleviation?

- 3.1 Ecosystem services, particularly food production, timber and fisheries are important for employment and economic activity. Intensive use of ecosystems often produces the greatest short-term advantage, but excessive and unsustainable use can lead to losses in the long term.
- 3.2 Levels of poverty remain high, and over one billion people have an income of less than \$1 per day. Most of these people are very dependent on ecosystems, because they support themselves mainly through agriculture, grazing, and hunting.
- 3.3 Some ecosystem changes such as increased food production have helped hundreds of millions of people out of poverty, but also have negative effects. Degradation of ecosystem services is harming many of the world's poorest and most vulnerable people, and is sometimes the main factor causing poverty.

### 4. What are the most critical factors causing ecosystem changes?

- 4.1 Natural or human-induced factors that change ecosystems are called drivers. Habitat change and overexploitation, for instance, are direct drivers that influence ecosystem processes explicitly. Indirect drivers affect ecosystems by influencing the direct drivers.
- 4.2 The main indirect drivers are changes in human population, economic activity, and technology, as well as socio-political and cultural factors.
- 4.3 Important direct drivers include: habitat change, climate change, invasive species, overexploitation, and pollution.

## **5. How might ecosystems and their services change in the future under various plausible scenarios?**

- 5.1 In this assessment, four plausible scenarios were developed to explore the future of ecosystems and human well-being.
- 5.2 According to the scenarios, the indirect and direct drivers that will affect ecosystems over the next 50 years will be mostly the same ones as today. Climate change and high nutrient levels in water will become increasing problems, whereas population growth will become relatively less important.
- 5.3 The scenarios predict that the rapid conversion of ecosystems for use in agriculture, cities, and infrastructure will continue. Moreover, habitat loss will lead to a significant loss of biodiversity by 2050.
- 5.4 Three of the four scenarios predict improvements in at least some ecosystem services. In many cases, however, human uses of ecosystems will increase substantially. Only the scenario which combines regionalization with reactive ecosystem management might lead to a negative spiral of poverty, declining health, and degraded ecosystems in developing countries.
- 5.5 In the scenarios, proactive management of ecosystems is generally beneficial, particularly when conditions are changing. However, both proactive and reactive approaches have costs and benefits.

## **6. Why are both global and sub-global assessments of ecosystem change useful?**

The importance of ecosystem services for human well-being around the world was investigated at local, national, and regional levels. Overall, the global and sub-global assessments gave similar results on the present state of ecosystems. However, local conditions were sometimes better or worse than expected from the global assessment, for instance for water resources or biodiversity. Some ecosystem problems have been reduced by innovative local responses. However, the “threats” observed at a global level may be difficult to estimate from a more local perspective.

## **7. How do ecosystems change over time?**

- 7.1 The impacts of human actions on ecosystems are often slow to become apparent. In general, people manage ecosystems in such ways that short-term benefits are increased, while long-term costs go unnoticed or are ignored. This can transfer the costs of current changes to future generations.
- 7.2 Most changes in ecosystems are gradual and, in principle, detectable and predictable. Other changes are more difficult to predict, because they are gradual only until they reach a certain threshold, at which large changes occur suddenly.
- 7.3 Human interventions in ecosystems make abrupt changes more likely. Loss of biodiversity, for instance, makes it more difficult for ecosystems to recover from damage. Once an ecosystem has undergone an abrupt change, recovery to the original state is slow, costly, and sometimes even impossible.

## **8. What options exist to manage ecosystems sustainably?**

- 8.1 Reversing the degradation of ecosystems while meeting increasing demands for their services is a major challenge. Changes in policy can decrease many of the negative consequences of growing pressures on ecosystems. However, the actions needed for this are much larger than those currently taken. Most ecosystem services have already suffered, but the damage would have been even greater without the conservation actions taken so far.
- 8.2 The assessments identified many types of positive actions that would bring long-term benefits for both ecosystems and human well-being. Examples of actions include: increasing international coordination, developing and diffusing technology, and improving the use of information.
- 8.3 Decision-making processes and their effects on ecosystems and human well-being can be improved by a series of elements such as transparency and public participation

### 9. What are the most important uncertainties hindering decision-making concerning ecosystems?

- 9.1 Conditions and trends in ecosystems are difficult to assess because of gaps in information, due for instance to incomplete monitoring systems, inventories of species, and models.
- 9.2 Better models could provide decision-makers with detailed information that directly links local, national, regional, and global projections on the future of ecosystem services.
- 9.3 There is limited information on the costs and benefits of alternative policy options in terms of total economic value (including non-marketed ecosystem services). Moreover, not enough is known about the importance placed by different cultures on cultural services, how this changes over time, and how it influences trade-offs and decisions.

## 6. Sustainable development, poverty and green agriculture

As it is detailed above, there is a strong interconnection among environment, economy and society. Many points of SDGs is about how to finish poverty, hunger, achieve food security for everyone, reducing inequalities within and among countries, get clean water and energy to everyone.

On way of realizing these goals is implementing green economy. The expression was defined by United Nations Environmental Programme (UNEP) as economy that results “improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities”

It does not favour one political perspective over another. It is relevant to all economies, be they state or more market-led. Neither is it a replacement for sustainable development. Rather, it is a way of realising that development at the national, regional and global levels and in ways that resonate with and amplify the implementation of Agenda 21.

A key element of green economy is green agriculture. According to UNEP a package of investments and policy reforms aimed at greening agriculture will offer opportunities to diversify economies, reduce poverty through increased yields and creation of new and more productive green jobs – especially in rural areas, ensure food security on a sustainable basis, and significantly reduce the environmental and economic costs associated with today’s industrial farming practices.

Environmental degradation and poverty can be simultaneously addressed by applying green agricultural practices. There are approximately 2.6 billion people who depend on agriculture for livelihood, a vast majority of them living on small farms and in rural areas on less than US\$1 per day. Increasing farm yields and return on labour, while improving ecosystem services (on which the poor depend most directly for food and livelihoods) will be key to achieving these goals. Evidence shows that the application of green farming practices has increased yields, especially on small farms, between 54 and 179 per cent.

## 7. Green agriculture

Green agriculture has the potential to: rebuild natural capital by restoring and maintaining soil fertility; reduce soil erosion and inorganic agro-chemical pollution; increase water-use efficiency; decrease deforestation, biodiversity loss and other land use impacts; and significantly reduce agricultural GHG emissions.

Changes in trade policies that increase access of green agricultural exports, originating in developing countries to markets in high income countries, are also required, along with

reforms of trade distorting production and export subsidies. These will facilitate greater participation by smallholder farmers, cooperatives and local food processing enterprises in food production value chains.

As incomes rise and consumers learn more about lifestyle diseases, and in the absence of good food safety regulations or lack of their implementation, the negative health effects of some cheaper, conventionally produced foods, we expect to see in upper and middle income consumers an increasing willingness to pay for more environmentally sustainable and ethically produced (e.g. fair trade, etc.) foods at prices that would cover their higher costs.

### Some benefits of green agriculture:

- Profitability and productivity
  - Organic farms are more profitable than the traditional ones. The prices are higher, but it cannot be known for how long.
- Macroeconomic benefits from greening agriculture
  - Significant secondary macro-economic and poverty reduction benefits are expected from greening agriculture. Investments aimed at increasing the productivity of the agriculture sector have proved to be more than twice as effective in reducing rural poverty as investment in any other sector.
- Climate adaptation and mitigation benefits, and ecosystem services
  - Making agriculture more resilient to drought, heavy rainfall events, and temperature changes is closely linked to building greater farm biodiversity and improved soil organic matter.

The concept of **green economy** does not replace the concept of sustainable development: but it is a clear recognition that things are happening through economy. Natural resources are both a driver and a possible constraint of economic growth. The higher GDP, the higher demand for natural resources; growing demand leads to higher production, which depletes stocks – all else being equal. Declining stocks, on the other hand, reduce potential medium- to longer-term production of natural resources, potentially constraining economic growth. Resource efficiency is promoted in the GER (green economy report), to reduce demand and improve the management of supply. The rebound effect is also taken into consideration, as it normally reduces the intended benefits of efficiency improvements by increasing demand.

The simulation of future scenarios with an integrated cross-sectoral model highlights the characteristics of the green economy approach and provides an assessment of the global impacts of green investments, relative to BAU (business as usual economy).

#### Key messages:

- Green economy grows faster than a brown economy, while maintaining and restoring natural capital. Even using GDP the green economy will take over BAU
- BAU creates development only at an unaffordable price.
- Green economy promotes pro-poor growth, and achieves energy and resource efficiency
- GE has the potential to create additional jobs in the medium to long run. The net result will not be the losing of jobs.
- The greening of economic sectors would reduce GHG (greenhouse gas) emissions.
- GE sustains and enhances ecosystem services. Investing in ecological infrastructure restores earth bio-capacity and human well-being as well.

This introduces us to our following chapter, the other relevant concepts of Sustainable Rural Development. The chapter Food security has also strong connection with the Agroecology chapter and also to the topic of Resilience<sup>6</sup>.

<sup>6</sup> UNEP: [Towards Green Economy: Pathways for Sustainable Development and Poverty Reduction](#)