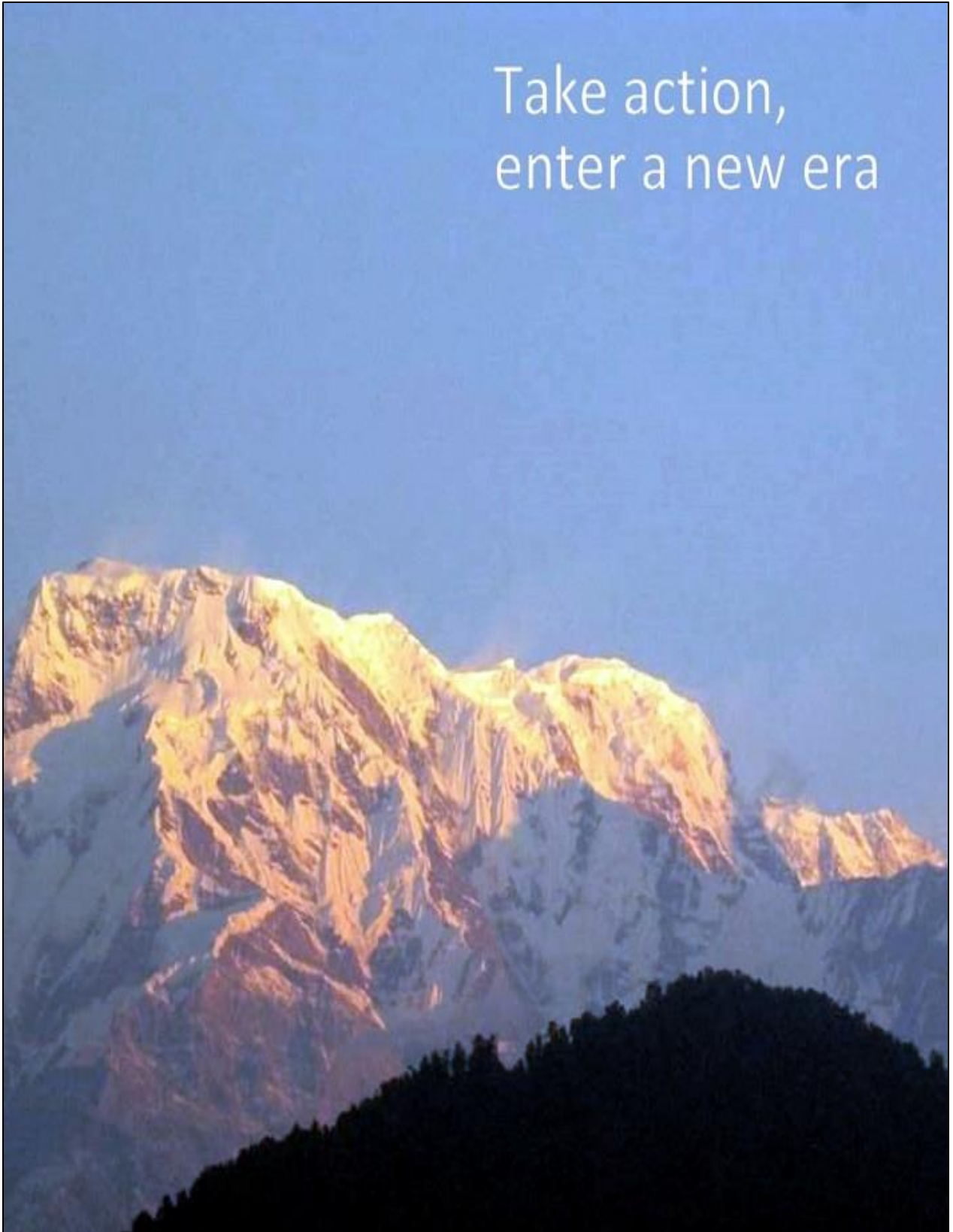


Take action,
enter a new era



Sunrise over Himalaya in Pedhi, Nepal 20 12 by Eugenia Arribas

Take action, enter a new era

FOREWORD

“2. We are at a historic crossroads, and the directions we take will determine whether we will succeed or fail on our promises. With our globalized economy and sophisticated technology, we can decide to end the age-old ills of extreme poverty and hunger. Or we can continue to degrade our planet and allow intolerable inequalities to sow bitterness and despair. Our ambition is to achieve sustainable development for all.”

“12. However, we also know that these problems are not accidents of nature or the results of phenomena beyond our control. They result from actions and omissions of people – public institutions, the private sector, and others charged with protecting human rights and upholding human dignity.”

13. We have the know-how and the means to address these challenges. But we need urgent leadership and joint action now.”*

*Extracts from the Synthesis Report of the Secretary-General On the Post-2015 Agenda, The Road to Dignity by 2030: Ending Poverty, Transforming All Lives and Protecting the Planet



Take action, enter a new era by [Ann-Lis Svensson, Ivona Sak, Ayse Sakar, Carolina Hoyos and Eugenia Arribas](#) is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.

Editors: Elisabeth Eames and Selin Tamer

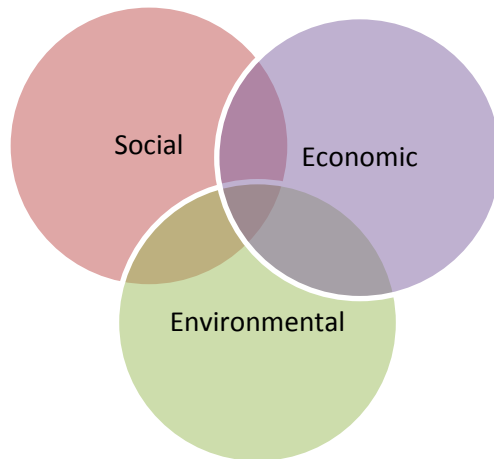
Website: <http://takeaction-enteranewera.webstarts.com> Facebook: <https://www.facebook.com/groups/119702951714013/>
LinkedIn: <https://www.linkedin.com/grp/home?gid=8385007>

TABLE OF CONTENTS

FOREWORD	2
INTRODUCTION	4
1 CLIMATE CHANGE	5
1.1 What Is Climate Change?	5
1.2 What Is Happening Around Us ?	5
1.3 Root Of The Problem	7
1.4 What Must Be Done, What Can We Do?	9
2 PLANETARY BOUNDARIES	10
2.1 What Are The "Planetary Boundaries"?	11
2.2 Understanding Planetary Boundaries: Causes And Consequences	11
2.3 What Can We Do?	14
3 POVERTY AND SOCIAL INCLUSION	15
3.1 What Is Poverty?	15
3.2 Facts And Trends	16
3.3 What Must Be Done?	18
3.4 Collective Action – Work Together Towards Social Inclusion	18
4 SUSTAINABLE CITIES	19
4.1 What Are Sustainable Cities?	19
4.2 Opportunities For Sustainable Development	20
4.3 What Can We Do To Develop A Sustainable Lifestyle?	23
5 ECONOMIC GROWTH	24
5.1 GDP, Growth, Wellbeing	24
5.2 World, Human And Transition	24
5.3 What Must Be Done?	26
5.4 Collective Action – Work Together Towards Sustainable Development	28
6 DEVELOPMENT GOALS	29
6.1 What Are The Millennium Development Goals?	29
6.2 What Are The Sustainable Development Goals?	31
6.3 Global Agreements In 2015	33
6.4 What Can We Do?	34
CONCLUSION AND ACTION	35
ANNEX I: BIBLIOGRAPHY	38
ANNEX II: INTERESTING WEBLINKS	42
ANNEX III: PRESENTATION OF AUTHORS	43

INTRODUCTION

DEFINITION OF SUSTAINABLE DEVELOPMENT AND THE PURPOSE OF THIS BOOKLET



Sustainable Development is the relationship between environmental, economic and social development. All three dimensions are interlinked so that one depends on the other two; they act together for well-being today and tomorrow!

Sustainable development has been defined in many ways, but the most frequently quoted definition is from Our Common Future, also known as The Brundtland Report:

"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

In chapter six on Sustainable Development Goals we will see how the three dimensions merge and become one circle with 17 integrated goals for a sustainable future.

There has been a fantastic social and economic development, especially the last 50 years. More people are wealthier, healthier and living longer. But the way we develop is not sustainable. This growth is coming at a high cost for the environment. If we continue this same way (BAU, "Business As Usual"), we risk losing the progress we have made.

We call people around the world to join in asking: "Hey, wait a minute! Where are we going? There's got to be a better way!"

The aim of this booklet is to contribute to sustainable development by inspiring people to take action on critical sustainability issues. We try to explain complex issues in an easy way and we give suggestions of **what we can do** to bring about change.

We cannot rely on others. The future is in our hands.

1 CLIMATE CHANGE

1.1 WHAT IS CLIMATE CHANGE?

In general, a warm planet might be considered nicer than a cold one. However, **global warming creates changes in the climate that result in extreme events like super storms and summer heat waves** that destroy costly infrastructure and threaten lives.



High as well as low income countries are affected. Africa is especially vulnerable to climate change; many African countries are likely to experience destructive effects on agriculture, fisheries, infrastructure, human health, local livelihoods and biodiversity¹ and in southern Europe, current conditions (high temperatures and drought) are projected to worsen in a region already vulnerable to climate variability. This will result in malnutrition, stunted childhood growth (stop in growth), susceptibility to infectious diseases, reduction of water availability and hydropower potential, and in general, loss of crop productivity. All these changes are caused by the increase of **greenhouse gases (GHG)** present in the atmosphere. In this chapter we will see how the global warming - that leads to climate change - is driven by the increase of GHG. We will explore the reasons for this increase and, most importantly, **what we can do about it.**

1.2 WHAT IS HAPPENING AROUND US?

1.2.1 Sea level rise

The Greenland and Antarctic ice sheets are melting and the sea water is rising. The Intergovernmental Panel on Climate Change (IPCC) projected a global sea level rise of 18 to 59 centimeters from 1990 to the 2090². However, others scientific estimations shows that from 2000 to 2100 sea level could rise up to 2 meters (Figure 1). If this

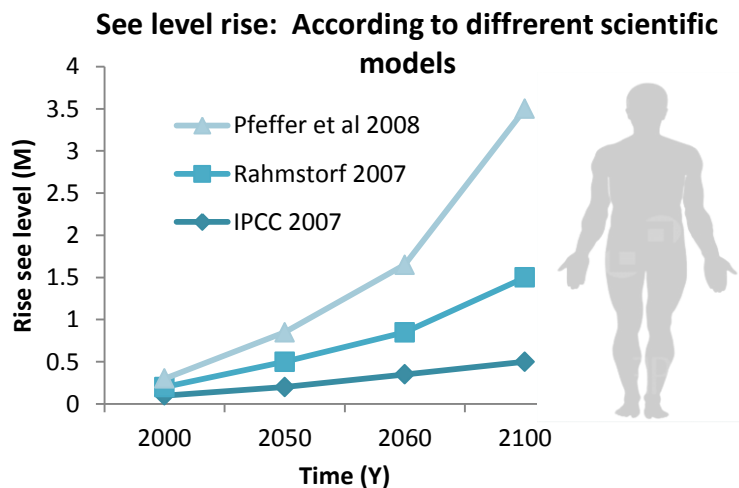


Figure 1 Predicted sea levels during time. Figure modified from <https://www.education.psu.edu/geog438w/node/261>

were to happen, **the Maldives, and several other islands, would lose about 77% of land area**³. Several Pacific islands and many of the largest cities near to the coast throughout the world will be partially under the water level.

But **the rate of rise is dependent on whether the temperature increase is kept to a minimum forecast of 2 degrees Celsius above pre-industrial levels, or whether the temperature reaches worst-case projections of 4.8 degrees Celsius by the end of the century.**

1.2.2 Extreme events

Today the extreme events in weather are our new normality. Computer models of the climate that include both natural forces and human influences are consistent with what we have seen happening over the last forty years.

As the climate has warmed, extreme weather is becoming more frequent and more severe, with increases in extreme heat, intense rainfalls, and drought. Heat waves are longer and hotter and flooding is more frequent.



Figure 2, Flood representation

Hurricane Sandy of 2012 was the most lethal and destructive, and the second-costliest hurricane in United States history. Estimates assess damage from Hurricane Sandy to have been over \$50 billion (2013 USD), a total surpassed only by Hurricane Katrina⁴. And there are numerous other examples of devastating super storms and extreme weather around the world. In Southern and Western Africa between October 2010 and September 2011 severe droughts in the east caused the death of 50,000 people and affected 13.3 million people⁵.

1.2.3 Oceans are becoming acidic

One role of the world's oceans is to take up the carbon dioxide (CO₂) that is produced naturally. Now, large additional amounts of CO₂ are produced by us, humans, when we make and use power based on coal, oil and gas, in power plants, factories, vehicles, etc. This CO₂ also dissolves in the sea water, forming excess amounts of carbonic acid and acidifying our oceans (Fig 3).

Changes in the acidity of the ocean threaten the marine biosphere (underwater life) and the species that inhabit the sea. Ocean acidity affects the ability of corals to absorb the calcium carbonate they need to maintain their skeletons thus leading to stony skeletons that support corals and reefs will dissolve⁶. If nothing is done to reduce carbon di-

oxide emissions into the atmosphere, ocean acidification will continue to increase and more corals (and also shells of shellfish oysters, mussels, etc.) will be diminished.

Coral reefs are often called **the rainforests of the sea**. They support extraordinary biodiversity. **Covering less than one percent of the ocean floor, reefs support an estimated twenty-five percent of all marine life, with over 4,000 species of fish alone⁷.**

In addition, reef structures play an important role as natural breakwaters that minimize wave impacts from storms like cyclones, hurricanes, typhoons, and from tsunamis, which are increasing in frequency as a result of climate change.

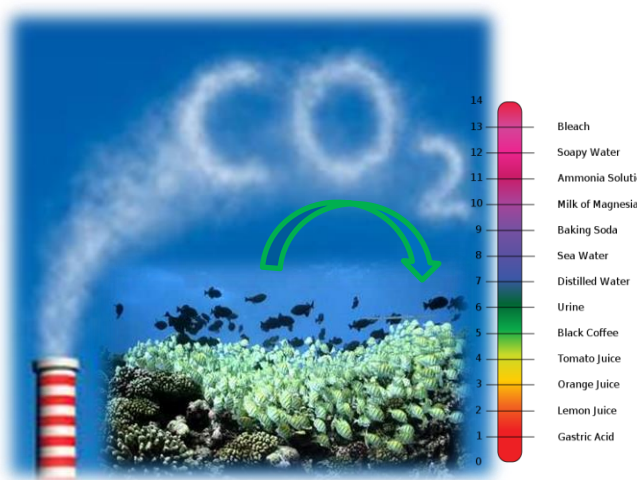


Figure 3 Schema of CO₂ contribution to acid acification

The beauty of coral reefs makes them a powerful attraction for tourism, and well-managed tourism provides sustainable means of income and employment in regions throughout the world. According to a United Nations estimate, the **total economic value of coral reefs range from \$100,000 USD to 600,000 per square kilometre per year⁸.**

1.3 ROOT OF THE PROBLEM

1.3.1 Too much greenhouse gases added to the atmosphere

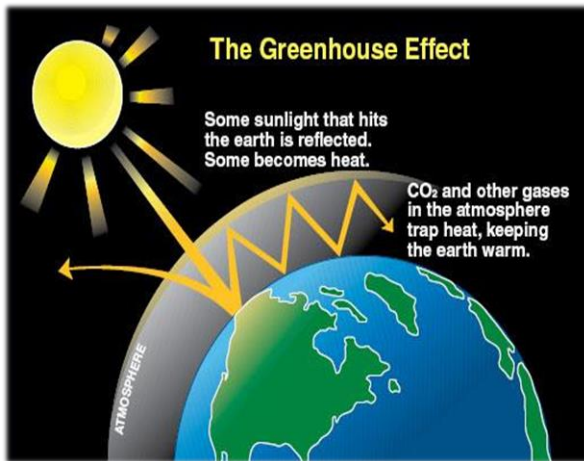


Figure 4, Schema of the green house effect.
Source: image clip art office

Greenhouse gases (including carbon dioxide, methane, nitrous oxides) are called **GHG**. Some of them are visible, such as the smoke coming out of cars and factory chimneys; some are not.

GHG remain in the atmosphere for hundreds of years, blocking heat from escaping, so the planet gets warmer (as shown in figure 4). Human activities have caused an accelerated increase in greenhouse gases in the atmosphere over the last 150 years. In fact, since the Industrial Era began, we have added billions of tons of heat-trapping greenhouse gases to the atmosphere. The greenhouse emissions come from using coal, oil and gas to produce energy for electricity, heat, transportation, but also from non-energy emissions as shown in the figure below.

In the **"Non-energy sector"** we have agriculture and deforestation, mainly of tropical forests. This sector accounts for 1/3 of the total GHG emissions. Indeed, the forests are CO₂ traps that store the CO₂ in a natural way. When trees are cut down for their wood or to use the land for agriculture or pasturage CO₂, is released and we contribute directly to the GHG increase. This is why we must protect the forest as a solution for the GHG reduction.

The **"Energy sector"** accounts for more than 60% of the global emission of CO₂ and this is increasing, at the same speed as economic growth⁹.

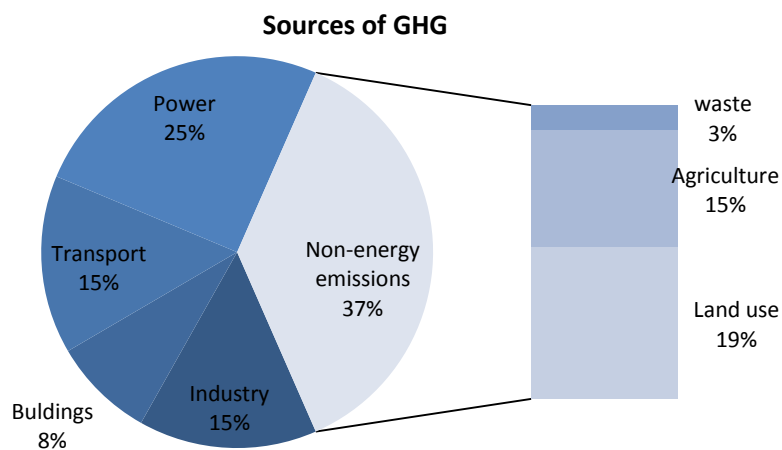


Figure 5 Sources of GHG, modified from ref (9)

We must ensure that the average global temperature rise does not exceed 2°C. Though 2°C seems like a small number, for the earth and our future, it has an enormous impact.

The figure below shows some examples of the impacts associated with global average temperature change¹⁰. Such fluctuations would have powerful implications for all people in all places. Only 20 years from now, we would all be living in a different world, in many ways. The Amazon rain forest will partially disappear with all its plants and animals, when the temperature increase exceeds 2°C, and with a 3°C increase, the sea level will menace cities like New York, London and Shanghai. Life will be unbearable. With an increase above 4°C our mere existence is in question. **This could be our reality in the year 2070, the same year we can be CO₂ free if we start to decarbonise in the year 2017.** The future is in our hands.

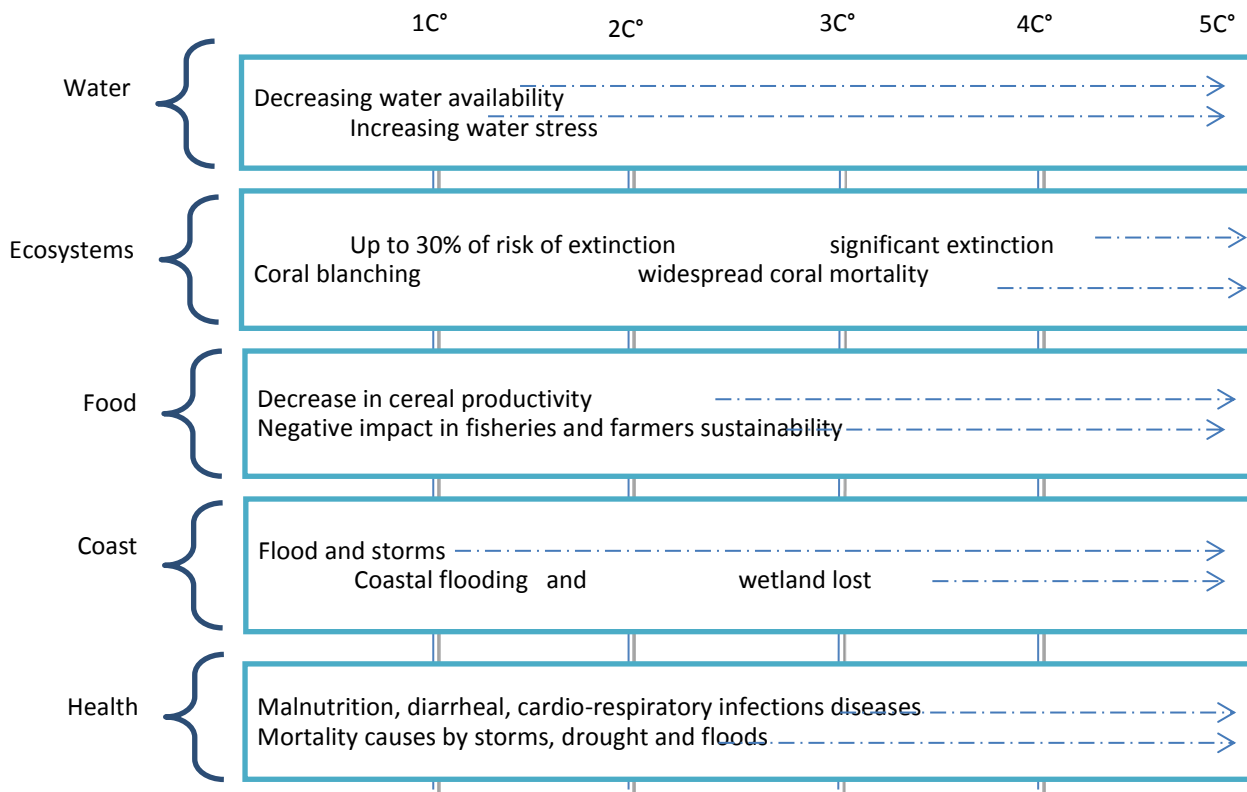


Figure 6 modified from REF (10). Illustrative examples of global impacts projected for climate changes (and sea level and atmospheric CO₂ where relevant) associated with different amounts of increase in global average surface temperature in the 21st century. The black lines link impacts; broken-line arrows indicate impacts continuing with increasing temperature.

1.4 WHAT MUST BE DONE, WHAT CAN WE DO?

1.4.1 *Collective action towards sustainable development*

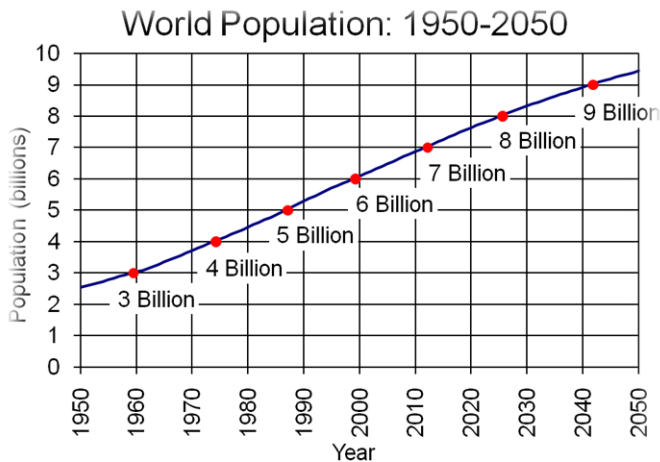
We consider that the most critical issue is to **stay below the 2°C increase in temperature**, because it affects all other sustainability issues. **The effects of climate change can be reduced if we change our day life choices, we stop deforestation, and reduce the use of fossil fuels**, which warms the planet. The best way to decarbonize (to produce energy with no CO₂ emissions), is to gradually replace coal and oil with alternative solutions as solar energy, wind, hydropower, CO₂ storage among others.

1.4.2 *How can I help decarbonise the planet?*

- **The choices we make in our day-to-day lives matter**
What is our collective carbon footprint? Measuring your individual carbon footprint takes less than 5 minutes and could change the way you live in harmony with the planet. [Calculate your carbon footprint now¹²](#). Check the last part of the booklet (Conclusion and actions “what can I do in my everyday life?”) where we give you more information on how to help to reduce the climate change.
- CO₂ can be reduced by 60% if the energy sector started producing only clean energy in the power plants for buildings, transport, industry. Use this link from the [Sustainable Development Solutions Network¹¹](#) to learn how your country can meet these goals!
- **Get informed and follow the COP21 agreements for and after the December 2015 meeting.**
In December 2015 governments of all countries met in Paris at the 21st Conference of the Parties (COP21) of the [UN Framework Convention on Climate Change¹³](#). The aim is to stay **within the 2°C increase limit**.
- **Check if your government has plans and mechanisms for implementation of a progressive change to clean energy** (solar, wind, dams, wave power, etc...), plans that consider the special conditions of the country and compensate short-term negative effects on poor people.
- **Request and support investment in research, development, demonstration, and diffusion to further advance clean energy technologies** so they can be applied in large scale to low cost. Oil and coal should gradually be phased out as energy sources.
- **Let polluters pay. Carbon taxes make polluting activities more expensive and green solutions more affordable.** If your city doesn't have a carbon tax, ask about how to implement one.
- **Discuss this booklet with others.** Do not be indifferent. Share your ideas to reverse climate change, support green ideas and policies. Bring your suggestions, questions, and insight to our discussions: join us on [Facebook](#), become a member of our [LinkedIn](#) Group.

2 PLANETARY BOUNDARIES

Although our ancestors had a certain respect for nature, humans have overall regarded nature as a never-ending resource. As you can see in the chart below¹, the world population has now gone from 2.5 billion at the time of the Industrial Revolution in 1950 to 7 billion nowadays, almost a tripling that occurred over 60 years, with ever increasing and at times destructive demands of our planet.



Source: U.S. Census Bureau, International Data Base, June 2011 Update.

This planet is the only one we have. Some of the Earth's resources are becoming scarce while others have already been depleted, they are gone forever. Many of us are not even aware of the severity of what is happening. But we must become aware, because we depend on nature to provide us with our wellbeing in the following ways:

- Support the nutrient cycle, soil formation and primary production ➡ *Security*
- Provide food, water, wood and fiber, fuel ➡ *Basic living goods*
- Regulate climate, flood, disease and water purification ➡ *Health*
- Offer cultural recreation, spirituality, education ➡ *Social relations*

The good news is that **Planetary Boundaries** have been defined so we have the tools to make the planet a safer place within which humanity can thrive in harmony with all that surround us, down to the smallest bee. It is up to us to see that this happens. In this chapter we will show the important role planetary boundaries play in sustainable development and we will give some suggestions as to how to stay within **those boundaries**.

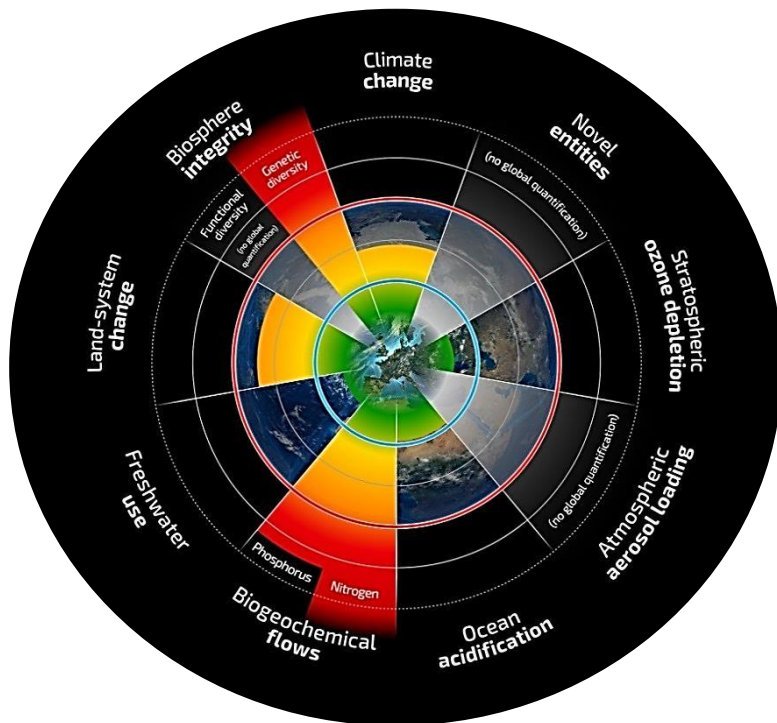


Smiley Monkey: ©David J Slater/ Wildlife Personalities Ltd.

2.1 WHAT ARE THE “PLANETARY BOUNDARIES”?

In 2009 a group of international scientists identified and quantified nine boundaries or earth limits within which the planet earth could have the capacity to sustain our human population. Avoiding crossing these boundaries and remembering to respect the nature of the planet's climatic, geophysical, atmospheric and ecological processes on which we depend, is critical to continue to live a healthy and decent life....

.... And we have already crossed 4 of the boundaries as shown in the left figure ² with red and orange colours.




Source: Steffen et al. Planetary Boundaries: Guiding human development on a changing planet, Science, 16 January 2015. Design: Globalia

Planetary boundaries, 2015
F. Pharand-Deschênes /Globalia²

2.2 UNDERSTANDING PLANETARY BOUNDARIES: CAUSES AND CONSEQUENCES

Let's briefly understand each of the boundaries:

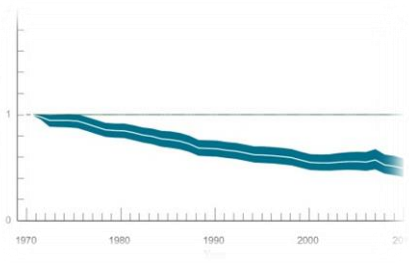
What is the cause?	Facts	Consequences
Planetary boundary: CLIMATE CHANGE Already crossed!		
Carbon dioxide escapes when we burn coal, gasoline and gas, and also from deforestation and agriculture, creates the greenhouse effect and warms the planet.	Regional climate disruptions. 	Increase in CO ₂ emissions increases global temperature. Higher sea levels, melted glaciers ³ and cities flooded. Loss of agriculture. Forced migration. Loss of rainforests. High economic loss and costs to compensate for damages. Glaciers mass balance³
Planetary boundary: LAND SYSTEM CHANGE Already crossed!		
Increased demand for food, water, and natural resources has made us convert forests, grasslands, wetlands into agricultural use.	Loss of ecosystems. Currently, forest covers 31% of the planet. We lose forests the size of 36 football fields <u>EVERY MINUTE</u> due to deforestation ⁴ . 15% of GHG is due to this reason.	Reduction in forests leads to biodiversity loss, water scarcity, nitrogen and phosphorus cycles impact and increases CO ₂ and global warming.

What is the cause?	Facts	Consequences
--------------------	-------	--------------

Planetary boundary: BIODIVERSITY LOSS (Genetic biosphere integrity) Already crossed!

Human demand for natural resources like fossil fuel, leads to extensive land system change, the loss of forests and habitats. Overhunting, overfishing and climate change leads to significant biodiversity loss.

More than 50% of all vertebrate species, 39% of terrestrial, 76% of freshwater and 39% of marine species have been lost since 1970. Animal populations are roughly half the size they were in 40 years ago as shown below⁵.



Global Living Planet Index⁵

Forests reduction leads to species extinction as the Giant Turtle below⁶. Ecosystem services and benefits (i.e.: basic living foods) also change.

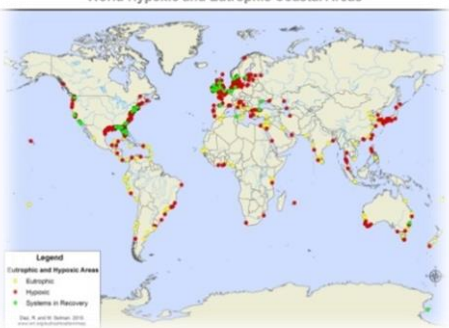


Lonesome George⁶

Planetary boundary: NITROGEN AND PHOSPHORUS FLOWS Already crossed!

Extensive use of chemical fertilizers, result in an increase in chemicals water-systems, providing extra nutrients and leading to algae bloom.

Bacteria consumes algae bloom, this deprives water of oxygen and leads to dead zones.



World hypoxic & eutrophic coast areas⁷

Dead zones are extensive areas in the oceans, where nothing can live. They have increased from 80 in 1960 to 500 nowadays worldwide as shown in left figure⁷.

Legend:
 Red: Dead zones
 Yellow: Areas of concern
 Green: Recovery Areas

Planetary boundary: NOVEL ENTITIES, CHEMICAL POLLUTION Boundary not yet defined

Emission of toxic and long-lived synthetic plastics, heavy metals and radioactive materials.

Reduced fertility, genetic damages, reductions in bird populations, impaired reproduction in marine mammals⁸. Eight million tons of plastic are dumped in the ocean every year⁹.

Toxins in food and all materials, including baby bottles and toys, affect our health.


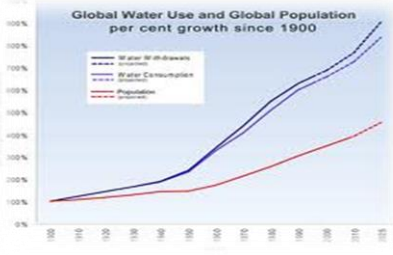


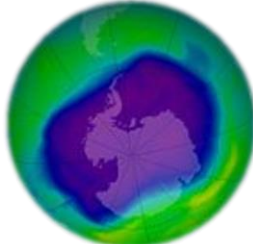


Image courtesy of Dan at FreeDigitalPhotos.net

What is the cause?	Facts	Consequences
Planetary boundary: GLOBAL FRESH WATER USE		
<p>Human activity changes river flows. We pollute water reserves and damage natural systems that filter and clean water.</p>	 <p>Global water use and population¹⁰</p>	<p>Water consumption increases with population and economic growth (see left graph¹⁰). This leads to a higher use of water for: agriculture (70%), industry (20%) and drinking-household use (10%). By 2025, 1.8 billion people will live with absolute water scarcity.</p>
Planetary boundary: OCEAN ACIDIFICATION		
<p>Carbon dioxide sinks into the oceans and slowly acidifies them. This makes it hard for corals, shellfish and plankton to grow and survive and threatens the fish that depend on them for food.</p>	 <p>Image courtesy of think4photop at FreeDigitalPhotos.net, Marine dead reef</p>	<p>Excess of CO₂ affects marine life, reduces fish stocks and coral reefs that protect against hurricanes and tsunamis. It causes the extinction of species and change in reproduction and gene patterns.</p>
Planetary boundary: ATMOSPHERIC AEROSOL LOADING Boundary not yet defined		
<p>Aerosols are small particles in the air seen as smoke, dust and haze as in right photo. They are produced mainly using fossil fuels; coal, gasoline, gas, but also through land-use change, when dust and smoke is released into the air.</p>	<p>Aerosols increase air pollution and change the amount of solar radiation reflected and absorbed in the atmosphere¹¹.</p>  <p>City Pollution by Peter Griffin</p>	<p>Aerosols also interact with water vapor, affecting cloud formation and monsoon systems. Fine particulate matter is associated with a broad spectrum of acute and chronic illnesses, such as lung cancer, chronic obstructive pulmonary disease (COPD) and cardiovascular diseases¹².</p>
Planetary boundary: OZONE DEPLETION		
<p>The ozone layer is located high up in the atmosphere and absorbs ultraviolet radiation from sunlight. We damage this layer by using CFCs or chlorofluorocarbons from spray cans, solvents and cooling agents for refrigeration (i.e. AC).</p>	<p>Antarctic ozone hole was detected in 1976 (see right figure¹³), then aerospray cans were banned. After widespread protests CFCs were replaced and banned with the Montreal Protocol. This is an example that change is possible when people get mobilized. Not all countries signed the Montreal Protocol (1989).</p>	<p>Leads to several types of skin cancer.</p>  <p>Ozone layer over Antarctica¹³</p>

2.3 WHAT CAN WE DO?

- **Stimulate certification** by getting more people interested in sustainable development. We can ask questions like "where was this product produced"? (food should preferably be local), is it "green", grown naturally without pesticides?
- To know more about the Planetary Boundaries, see **The Stockholm Resilience Centre** website (www.stockholmresilience.org), a TED Talk ([see here](#)) and their advice to the business community SOS for Business 2015 📺
- **Promote and buy certified products** holding recognized sustainable development certifications: As consumers, we play an important role for sustainable development, with the selection of the products we buy. There are several international non-governmental organizations (NGOs) that certify products that fulfil different sustainability conditions.
- Join us on [Facebook](#), become a member of our [LinkedIn](#) Group
- Explore the following organizations that certify sustainable products and services:

Biodiversity loss: consume products that are sustainable and environmentally certified



Land system change: have a balanced diet, little meat. Buy local

Global fresh water use and chemical pollution: use water efficiently and avoid buying products with this label, which can pollute the water.



Nitrogen and phosphorus: Eat BIO and ECOlogical products. They have less use of synthetic fertilizers



Stratospheric ozone depletion and Atmospheric aerosol loading: Check the labels in the products, buy with NO CFC's!



Climate change and ocean acidification: see chapter on climate change

The Marine Stewardship Council¹⁴, train and certifies fisheries in sustainable fishing. Try to buy seafood labeled MSC. EU Ecolabel, products and services. **Forest Stewardship Council**¹⁵ for forestry and wood products. **Fairtrade**, food and agricultural products, produced in an ethical way; providing workers with decent salaries. **Rainforest Alliance**, conservation of rainforests and its biodiversity. **IFOAM**, International Federation of Organic Agriculture Movements work for omission of pesticides, synthetic fertilizers and GMOs.

Products should be certified by reliable, independent organizations. Some industries certify their own

3 POVERTY AND SOCIAL INCLUSION

"Like slavery and apartheid, poverty is not natural. It is man-made and it can be overcome and eradicated by the actions of human beings. ...Overcoming poverty is not a gesture of charity. It is an act of justice. It is the protection of a fundamental human right, the right to dignity and a decent life." Nelson Mandela¹

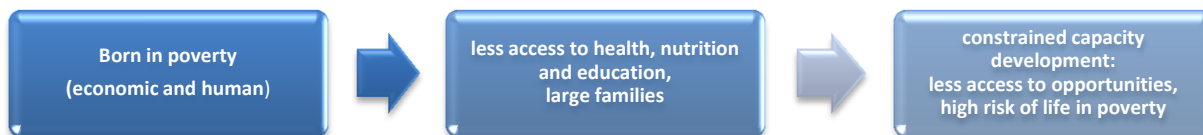


Figure 1, Mandela-2008 CC-BY 2.0 Anghy

We have the resources and knowledge required to eradicate extreme poverty. It can happen if priorities are set right. Eradicating extreme poverty is an ethical issue that also affects prosperity and the wellbeing of all of us and of our planet.

3.1 WHAT IS POVERTY?

The World Bank defines **extreme poverty** as consumption worth no more than 1.25 USD per person per day. This is a rough "theoretical" minimum, set to allow us to compare and measure trends. In addition to this "**economic poverty**" we have "**human poverty.**" Human poverty is related to the development of capacities: education, health and mobility; the possibilities to progress.



Poverty in our time is not natural. It is mainly a **consequence of people, structures, and institutions** failing to facilitate, or to make it possible for people and countries to progress.

To eliminate extreme poverty, the rights of all people must be respected. Social and economic development must be made inclusive, addressing the gaps within and between countries.

Social inclusion is when all people have access to opportunities, independent of their social and economic background. An inclusive society is an open society with a welfare system that provides economic and social security and possibilities to advance.



Figure 2, Slum area, Manila, Philippines BigStock shadow216

With **climate change**, we have an additional cause of poverty. The already poor, especially women and children, have smaller margins, are less protected, and are more exposed. Climate change is felt in all countries, including in South Asia and Sub-Saharan Africa where 80 percent³ of the population lives in extreme poverty. Extensive areas experience droughts, floods and extreme weather events. **People who have contributed the least to climate change are often those who are affected the most.**

3.2 FACTS AND TRENDS



Figure 3, Population in extreme poverty³

Poverty is decreasing rapidly, **from more than half of the developing world population in 1981 to 20 percent in 2010²**. People live longer and healthier lives and more people have access to opportunities to continue to progress. These are major achievements. However, more than one billion people still live in extreme poverty and **2.2 billion³ struggle to survive on less than 2.00 USD per day**. Most of these people are stuck in both economic poverty and in human poverty. Many, both children and adults, go to sleep hungry, every night.

Around 80 percent³ of **extreme poverty** is concentrated in **South Asia**, where 399 million³ people live in extreme poverty and in **Sub-Saharan Africa**, where 413 million³ people **live in extreme poverty**.

3.2.1 Who are the people that have come out of poverty?

The economic growth of the emerging markets has come as a surprise to many. The middle class in the fast growing BRIC countries (Brazil, Russia, India and China) is estimated to increase by more than one billion⁴ people between the years 2000 and 2020. This new middle class consists of individuals who lived in poverty but had access to healthcare and education and they have been able to benefit from economic growth.

One of these BRIC countries, China, has achieved the most remarkable poverty reduction in history, with **extreme poverty falling from 84 percent in 1981 to 12 percent in 2010** (see graph below), and with an economic growth of roughly 10 percent per year since 1978 when Deng Xiaoping came into power and introduced market reforms. Unfortunately, their CO₂ emissions have increased in a similar way.

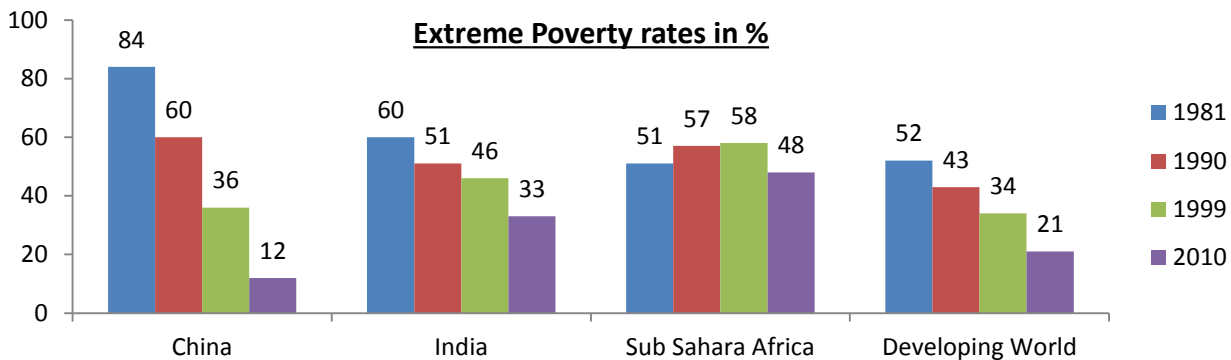


Figure 4, World Bank staff estimates

3.2.2 Why is China advancing so fast and why is India held back?

There are several reasons for economic growth: historic, geographic, gender, resource availability, infrastructure, cultural, and of course governance and politics. The causes vary depending on the country and the local situation, but human development (healthcare and education) from childhood lays the base for economic growth to take place.

In 1980, when China started its market reforms, **India** had less **poverty (60 percent)**, than **China (84 percent)**. However, most people in China could already read and write, and could benefit from and contribute to the economic growth of their country. Figure 4 above, shows how fast China reduced its poverty rate while **India** continued to carry the burden of **a large, illiterate population (60 percent⁵ could not read and write)**.

India invested in higher education (post-secondary education) and agriculture - the “Green Revolution,” which saved the lives of millions of people; but they failed to invest in basic education. In India 25 percent⁵ of women are still illiterate in 2015. As we can see later in this chapter, girls who have not had the chance to go to school have more children; so the population increase in India continues to be high and food is becoming scarce again.

3.2.3 Economic development in Africa

Sub-Saharan Africa is also catching up with an average annual economic growth rate of 5 percent⁶. Investment in education and health has increased since 2000, but poor people, especially those in the countryside and girls, have not yet been given access to social services at the same rate as their more urban and male counterparts. This affects **population growth**, which is high, at around 2.7 percent⁷ per annum (an average of 4.7 children per woman). The economic growth, is therefore, not 5 percent, but much lower when calculated per person.

3.2.4 Education is so important, but what does that have to do with how many children people have?

Women with low levels of education tend to have more children than they would like to have, and their children often get lower levels of education and even lower chances to survive their first 5 years.

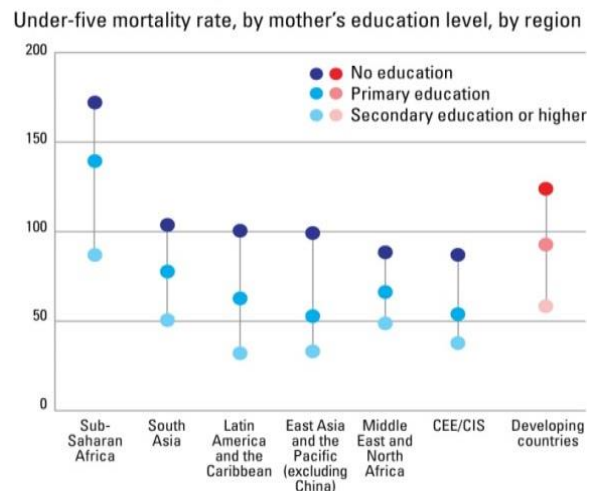
In Sub-Saharan Africa, as illustrated in this graph, (UNICEF 2010 PFC report Figure 5), **170 of 1000 children born by a mother with no education did not survive to their fifth birthday.** That is twice as many as those born by a mother **with secondary education.**

Girls with secondary education are more likely to get married and have children later in life and they are better prepared to take care of the children that they have. **The level of education of the mother influences the level of education of her children.**

These are examples of the “**intergenerational cycle of poverty.**” To break this cycle, we need **a welfare system and inclusive social development.** Education and capacity development are basic requirements. They are necessary for any person and any country to be able to progress and to come out of poverty.

Families with high infant mortality and low levels of education tend to have more children and they are often trapped in extreme poverty. If universal education is implemented globally, this could also help the world population to stabilize at 9 billion, rather than increase to 11 billion or more.

Across all regions, under-five mortality is higher among less educated mothers



Note: Analysis is based on 71 developing countries with data on under-five mortality rate by mother's education level, accounting for 73% of total births in the developing world in 2008.

Source: DHS, MICS and Reproductive and Health Surveys, mainly 2000–2008 (reanalysed by UNICEF, 2010). See page 85 for further details.

Figure 5, UNICEF 2010 PFC report ¹²

3.3 WHAT MUST BE DONE?

3.3.1 *Leave no child out*

Social inclusion must start with children. To achieve sustainable development of a country, all children, especially girls, and those in extreme poverty, must grow safe and healthy and reach at least secondary education. We should hold the governments and society accountable!

3.3.2 *Inclusion and opportunities*

Governments and society should identify and eliminate reasons for exclusion, implement safety nets, and promote access to the formal economy and market; financing, housing, land, service, and infrastructure, in order that everybody may progress, under similar social and economic conditions.

3.4 COLLECTIVE ACTION – WORK TOGETHER TOWARDS SOCIAL INCLUSION

3.4.1 *One critical issue*

The most urgent issue related to Poverty and Inclusion is access to and completion of good, quality primary and secondary education, by all children, especially girls, and children in poor communities.

3.4.2 *What you can do?*

Support and collaborate with organizations working for inclusive education, not with one school but for the school system. Globally, funds for education are being reduced and attention is being spread to other priorities.

Keep attention focused on education.

- Join or start groups and networks on eradication of extreme poverty, social inclusion, and girls' education
- Keep attention focused on education
- Be part of the discussion
- Join us on [Facebook](#) and become a member of our [LinkedIn](#) group

At the end of this booklet you will find more suggestions for what we can do in our daily life to live a more sustainable life ourselves.

“Sometimes it falls upon a generation to be great. You can be that great generation. Let your greatness blossom.” - Nelson Mandela¹

4 SUSTAINABLE CITIES

Unsustainable



Figure 1, Air pollution, Kuala Lumpur, Malaysia 2005. CC Flickr by servus

Sustainable



Figure 2, Waterfront Walkway Burlington, Ontario, Canada

4.1 WHAT ARE SUSTAINABLE CITIES?

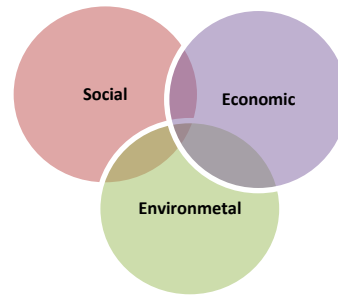
- Sustainable cities are cities that can meet our present needs without compromising the ability of future generations to meet theirs.
- Sustainable cities are economically, socially, and environmentally inclusive and sustainable.
- Sustainable cities offer opportunities and integrate all inhabitants, while preventing poverty and eradicating extreme poverty.

In this chapter we will see how our cities have evolved and how they can become sustainable. We will start with an overview of city growth and development over time, and then we will look at some of the challenges and opportunities for sustainable development in cities. We will show how sustainable cities be a model and influence the rest of the country. Finally we will give examples of how each one of us can contribute to a sustainable future.

<i>City growth</i>	
<i>Past</i>	<i>Present -Future</i>
<p>Before the Industrial Revolution, only ten percent of the world's population lived in cities such as Cairo, Rome, Constantinople, Beijing, Paris, and London¹.</p>	<p>Now more than half of the world's population lives in cities. The city environment stimulates economic growth. Large populations in relatively small areas and the circulation of larger amounts of money attract investors and entrepreneurs.</p>
<p>With the Industrial Revolution, an economy based on coal and oil was created; factories were built, cars became common, new farming techniques were developed, chemical fertilizers and machines were invented. Extensive forests were chopped down and new farmland was opened. Agricultural yields improved and world population increased from 1 to 7 billion.</p>	<p>One in eight people live in 28 mega cities that have more than 10 million inhabitants; Tokyo 37.5, Jakarta 30, New Delhi 24, Manila 22.7, Shanghai 22.7, Karachi 21.6, New York 20.7 million³.</p> <p>The fastest growing cities are in India, China, Nigeria, Indonesia, US, Pakistan, and DR Congo.</p> <p>They have rapid economic growth and accelerating increase in CO₂ emissions.</p>

4.2 OPPORTUNITIES FOR SUSTAINABLE DEVELOPMENT

This sub-chapter we will give practical example of how the three dimensions (social, economic, and environmental) interact, and how we can build on opportunities in the cities to achieve sustainable development.



<i>Social and Economic Development</i>	
<i>Challenges</i>	<i>Opportunities</i>
<p>Urban population is expected to increase by 2.5 billion people between 2014 and 2050, adding an estimated 70 million new residents every year. Over 90% of this increase will be in low income countries³.</p> <p>Socio-economic challenges</p> <p>Some of the migrants to large cities will benefit from the opportunities in urban areas, while others, often those with low or no education and skills, may have little opportunity. More than 1 billion people live in urban slums. If effective inclusive policies are not implemented, this may increase to 2 billion people by 2030.</p> <p>Social networks within neighbourhoods are often lost in cities and life can become harsh.</p> <p>Inequalities in cities are increasing. There are people living in extreme poverty and others in extreme wealth. This leads to instability and violence.</p> <p>Young population: The average age of the population coming from the countryside will, in low income countries, be below 20. This represents an educational challenge but also great opportunities for capacity development of the new urban generation.</p>	<p style="text-align: center;">Figure 3. Economic Growth, GDP per capita in 1990 US dollars.</p> <p>Poor countries are catching up; they have faster economic growth and urbanize more rapidly than rich countries.</p> <p>80% of the economic output is generated in cities¹.</p> <p><i>Urban policies that ensure the benefits of economic growth reach everyone can accelerate progress in the whole country.</i></p> <p>Well managed cities invest in <i>their people</i>, creating opportunities for everybody to progress by</p> <ul style="list-style-type: none"> ● Facilitating access to quality healthcare and education, with special focus on children in poor families ● Facilitating access to finance, formal market, housing and job creation ● Integrating people living in slums into formal neighbourhoods, implementing strategies for land allocation and inclusive land use. ● Aiming for wellbeing: stimulating sustainable lifestyles and a culture of wellbeing where economic growth is just one of the means to get there. <i>Such culture can spread and inspire people throughout the country.</i>

Sustainable Infrastructure

Challenges

Opportunities

Public transportation is often of low quality with poor connections. People then prefer, if possible, to go by car. Poor neighbourhoods are often without proper **roads**.

The typical way to handle **waste** is in landfills, which pollute air and underground water and represent a missed economic opportunity.

People in poor areas have seldom access to **clean water**.

Good **public transportation**: buses, metro systems, properly managed biking and walking roads, electric vehicles.

Paved, well drained **roads** in all neighbourhoods.

Using urban **waste** as input for recycling and energy production.

Healthy ecosystems, providing **water** safely to all, at a reasonable cost.

Using city experience and research to stimulate and support sustainable infrastructure throughout the country.

Clean energy sources and lifestyle

Challenges

Opportunities

It has been a fantastic development for humanity over the last 50 to 100 years, but it has been at a high cost for the environment. **We can continue to progress but we need drastic changes.**

Cities must take the lead to decarbonise (stop using coal, oil and gas) since **80% of the global energy¹** is consumed in the cities, and **70% of carbon dioxide emissions¹** (the most critical gas for climate change) is produced in cities.

Cities should also take the lead in energy efficiency, introducing “green buildings” with improved construction, heating and cooling systems.



Figure 4. Electric car. Håkan Dahlström/Creative Commons⁹

Clean electrification of all energy can reduce CO₂ so we stay below 2°C increase

Power plants that produce energy for cities should gradually (but urgently) replace coal, oil, and gas with clean energy like solar power, hydroelectric, and wind power. This is then **converted into electricity** for **industry, housing, and transport**. The economic and research capacities required for this transit are found in the cities⁴.

Lifestyle and food consumption

Challenges

Opportunities

Urban inhabitants are wealthier, produce more waste and consume more meat. The additional 2.5 billion people who will migrate to cities in the coming 35 years³ will adopt the same **lifestyle** if urban culture is not changed.

The quantity of food production in the world is 4 billion tons per year. Some studies suggest 30-50% of this **food is wasted²**. This is both a moral and an envi-

Introduce a culture of reusing, recycling, and minimum waste.

Some scientists claim food waste is so significant it could easily feed the future estimated 9 billion people⁵.

Everyone can contribute to sustainability by reducing food waste in supermarkets, restaurants, and in our homes, and by requesting that the food industry do the same.

Opportunities for city gardening should be provided and

<p>ronmental issue. One billion people go hungry, water is wasted (70% of world water use is for agriculture¹), forests are being cut down to get additional agricultural land. Air, water and land are being polluted with pesticides, fertilizers and green-house gases. And it is being wasted!</p>	<p>locally produced food made available.</p>
<p><i>Protecting against climate change</i></p>	
<p><i>Challenges</i></p>	<p><i>Opportunities</i></p>
<p>Most coastal cities will be partially flooded if the water level rises 1.5 to 2 meters (at 2 - 3°C increase)² including Tokyo, New York, London, Manila, Jakarta and Shanghai.</p> <p>Heat waves, storms, floods, droughts, air pollution, and earthquakes are among the environmental catastrophes we can expect to intensify.</p> <p>Rapid urbanization and urban adaptation to sustainable development are among the most complex socio-economic challenges of the 21st century.</p>	<p>We can protect and adapt our cities to those ecological shocks that can be expected due to increasing global warming. If good preparedness measures are taken in advance, human and economic loss can be reduced. It is also in the interest of the business community to contribute to protective measures. The economic losses of such catastrophes can be enormous. High income countries should give technical, legal, governance, and financial support to middle and low income countries.</p>
<p><i>Governance</i></p>	
<p><i>Challenges</i></p>	<p><i>Opportunities</i></p>
<p>Fully urbanized high income countries need to partially rebuild their cities to invest in environmentally friendly infrastructure and green, sustainable building and living.</p> <p>Rapidly urbanizing, low income countries must also rebuild their cities and in addition, they must prepare for a massive expansion; develop extensive new urban areas and provide them with infrastructure and services. To combat and prevent poverty, existing slum dwellers and people who migrate to the cities need a place to live.</p> <p>Sub-Saharan Africa will double its urban population in the next 20 years³!</p>	<p>Handling sustainability challenges requires good governance, professional sustainable city planning and development, new technical solutions and good financing of infrastructure investments.</p> <p>High income countries should give support to low income countries in sustainable city planning, new technical solutions and financing.</p> <p>The business community can play an important role in the transition to sustainable cities. Sustainable development offers new opportunities: a boost for new business and extensive job creation.</p>

4.3 WHAT CAN WE DO TO DEVELOP A SUSTAINABLE LIFESTYLE?

4.3.1 One critical issue

Related to Sustainable Cities, we consider the urgent issue is to **spread awareness and interest in sustainable development by introducing an inclusive, sustainable lifestyle and culture.**

People in cities can play a key role for sustainable development: change is spreading from the cities to the rest of the country.

4.3.2 What can we do?

- Do not accept that some people must live in poverty!
- Request and use clean energy and efficient appliances
- Request and use good public transportation. Take the bike or walk when possible.
- Develop a lifestyle of reuse, recycle and minimum waste, and influence others to do the same, including supermarkets and restaurants.
- Strive for a culture of wellbeing for all, in your neighbourhood and in your city.
- Discuss this booklet with friends and see what you can do depending on your interests and the sustainability issues in your city.
- Consider starting a group or network on how you can together with others and promote a sustainable lifestyle.
- Get more suggestions at the end of the booklet and add what is relevant for you.
- Join us on [Facebook](#) and participate in our [LinkedIn](#) group.

We can continue to progress but we have to change our path. We are at a “dead end.”
Let sustainable cities be drivers for sustainable development.

5 ECONOMIC GROWTH

*"The welfare of a nation can scarcely be inferred from a measure of national income... Goals for more growth should **specify more growth of what and for what**" - - Simon Kuzniets, Report to the US Congress in 1934*

5.1 GDP, GROWTH, WELLBEING

Economic growth is measured as growth in GDP (Gross Domestic Product). The GDP¹ is the monetary value of all goods and services produced within a country's borders in a specific time period. It does not consider the aspects presented in this booklet: like environmental and social costs and sustainability, nor does the GDP consider economic sustainability. This is the root of the problem; the index we use to measure progress (GDP) does not take us in the right direction, and it even puts us at risk of losing the progress we have made, including our health and wellbeing.

It is clear now that population growth and economic development are leading to rapid changes, mainly in our global ecosystems. We assess the consequences of impacts and costs for economies of our current situation; the Earth's transformation contributes to substantial gains in human wellbeing and economic development².

For our prosperity, the economy should serve society within the life support systems on Earth³. Implementing the best metrics is needed to reflect an economic development that integrates a balanced view among GDP and its economic, social, and environmental impacts.

Now, there are several indexes (such as the Ecological Footprint, Human Development Index, Happy Planet Index, Prosperity Index, Gini Index, Better Life Index), some of them measure wellbeing and happiness^{2,3}.

An example of the index considering the environment in addition to economic factors is the Social Progress Index (SPI)⁴, released in 2010 by a group of global leaders from the social sector.

We should note that countries with similar GDPs can have very different levels of socio-economic progress.

5.2 WORLD, HUMAN AND TRANSITION

Since roughly 2,000,000 years ago, the world has gone through a huge transition based on numerous innovations and inventions. From the wheel and paper to today's high-tech gadgets, we have changed the ways we live and work. In our times, technological wonders have become indispensable to our daily routines.



Figure 1, Collector, Ivona Sak

5.2.1 Timeline of innovations and inventions.

Let's make a quick review of some innovations and inventions that helped us to progress^{5,6}:

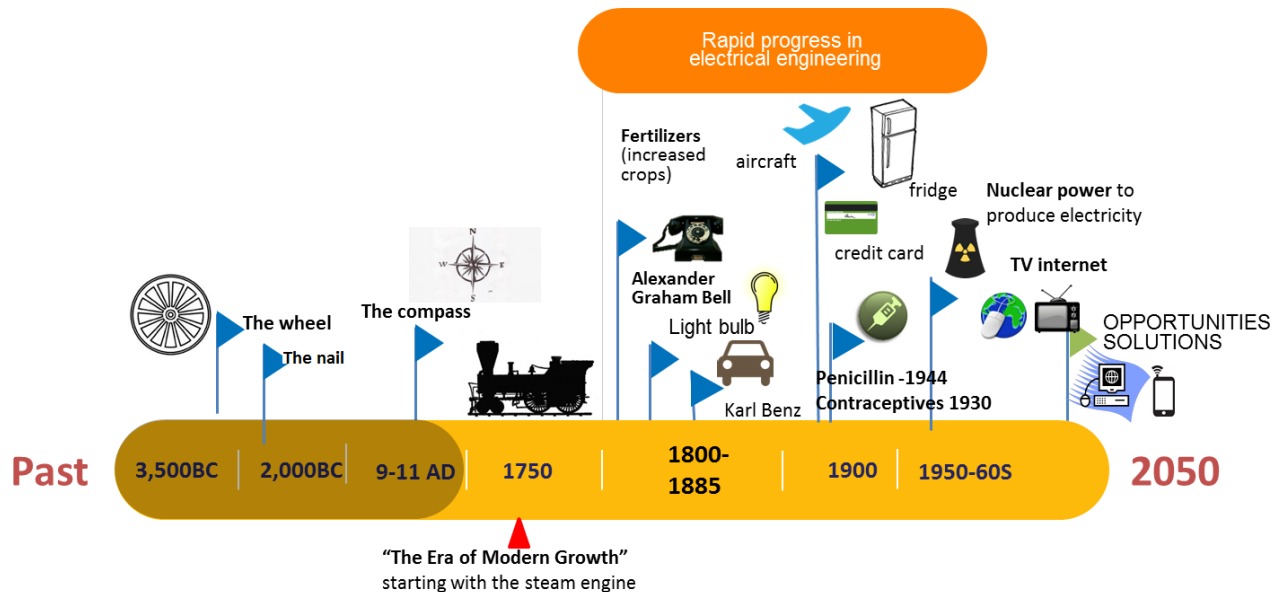


Figure 2, Timeline of innovations and inventions, Carolina Hoyos

5.2.2 Advantages and disadvantages of the modern times lifestyle

We use modern techniques and technologies like:

Broad band, wireless internet, wireless telegraphy – embedded in mobile, flat screens, motion controllers and iTunes, recycling, bio-fuels, solar cells, biotechnology, nanotechnology, genetically modified organisms, nuclear energy, quantum physics, electronics, laser, medicine (transplants, surgery, vaccines).

Our Modern Lifestyle reflects individual attitudes, values and worldviews:

Currently, this lifestyle is marked by "green" purchasing and production in recognition of threats to global sustainability, but also by "consumerism."

Being "green"- consuming less, using natural products, and producing less harmful waste (toxic chemicals and other polluting substances, including CO₂ and other greenhouse gases); versus "consumerism"- consuming more and more products and services, with little concern about environmental consequences.

5.2.3 What forces shape our lives?

Our lives are shaped by our social and economic status:

-half of the people in the world live on less than \$2 USD per person per day; even more people do not have full access to rights, opportunities and resources like housing, employment, healthcare, education and finance .

Discrimination/gender is also a significant issue: women and girls do not have the same access to material resources, legal and other rights.

5.2.4 What are the social and economic costs of modern times?

We are threatened by and go through the social and economic costs of these modern times, like:



Figure 3, Man Child, Ivona Sak

Diseases caused by noise and other pollution: asthma, allergies, chronic respiratory diseases, cancer, liver disease, diabetes, cardiovascular disease, depression, anxiety and obesity.

Destruction of the environment: global warming/ climate changes, deforestation, wasted lands and lakes, rivers and oceans with no life, resources depletion, polluted air, acid oceans, scarcity of fresh water and waters with lots of plastic waste.

Environmental and Social Tragedies, i.e.:

London⁷ (**smog** 4,000 - 10 000 **people died** in Dec. 1952),

Bhopal⁸ (**dioxin pollution** accident at a Union Carbide Pesticide Plant 15 000 **people died**, many of the survivors **suffered** blindness, organ failure and other awful disabilities; a high number of children have been born with birth defects Dec.1984).

The costs of protecting societies and economies from extreme weather impacts are rising and will continue to rise in an accelerated way. This economic system, based on growth without considering consequences, is unsustainable.

If we do not make drastic changes we **risk losing THE ADVANCES we have MADE.**

5.3 WHAT MUST BE DONE?

We need to restore the liability of the planet and improve the quality of life based on cooperation towards proven beneficial and shared goals, such as protecting assets, and promoting the possibilities of future progress, profits and benefits.

We need a different way of life. Defining and shaping our lives based on social capital, respecting the environment, and respecting people.

We are not machines that only create more money, higher increase in GDP.

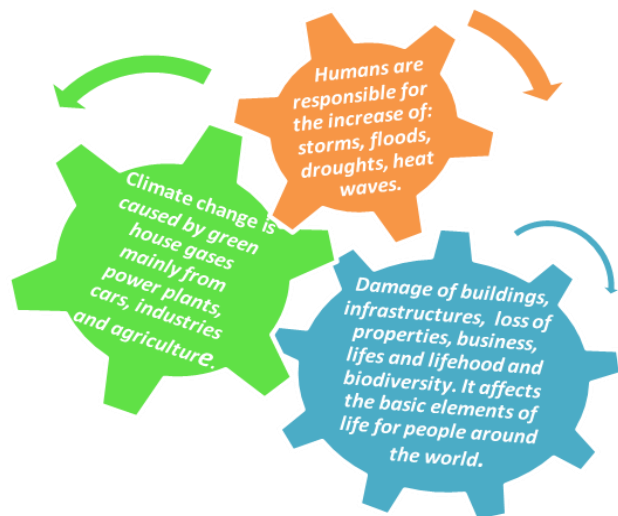


Figure 4, Responsibilities, causes and results, modified⁹, Ivona Sak.

5.3.1 What can we do, as customers, citizens, businesses, and what can be gained?

“Anyone who believes exponential growth can go on forever in a finite world is either a madman or an economist.”
 Kenneth Boulding, economist¹⁰

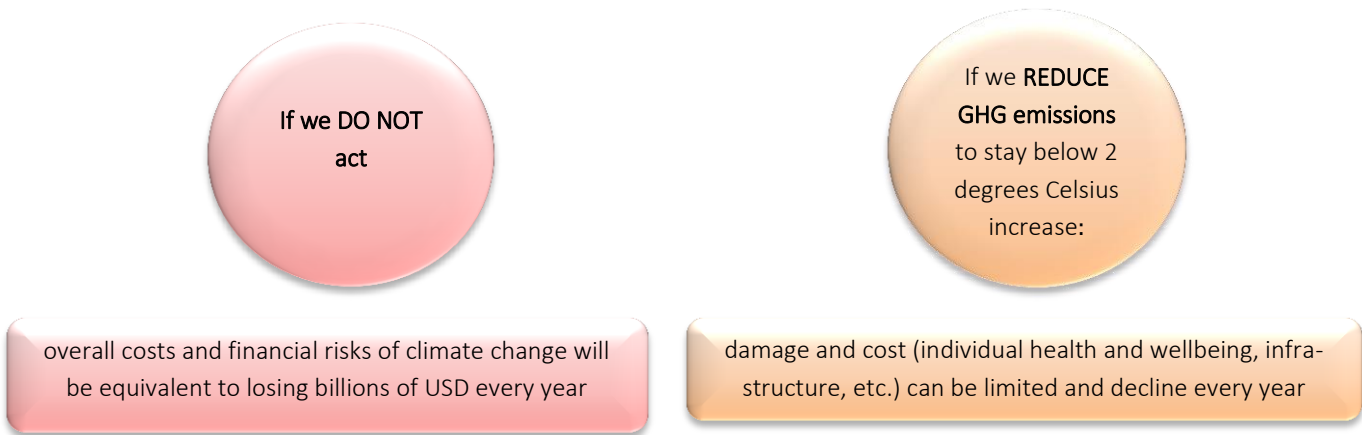


Figure 5, Costs and risks, modified⁹, Ivona Sak

Citizens and socially responsible and ethical corporations can collaborate and take a lead by doing the following:

- Make and request products and services that are environmentally and socially friendly
- Use energy and resource-efficient machines, techniques and technologies
- Comply with sustainability regulations and standards
- Support contacts and stakeholders to become conscious of and respectful for the environment and to people
- Be a leader and participate actively in the transformation of your city and your country towards sustainability.

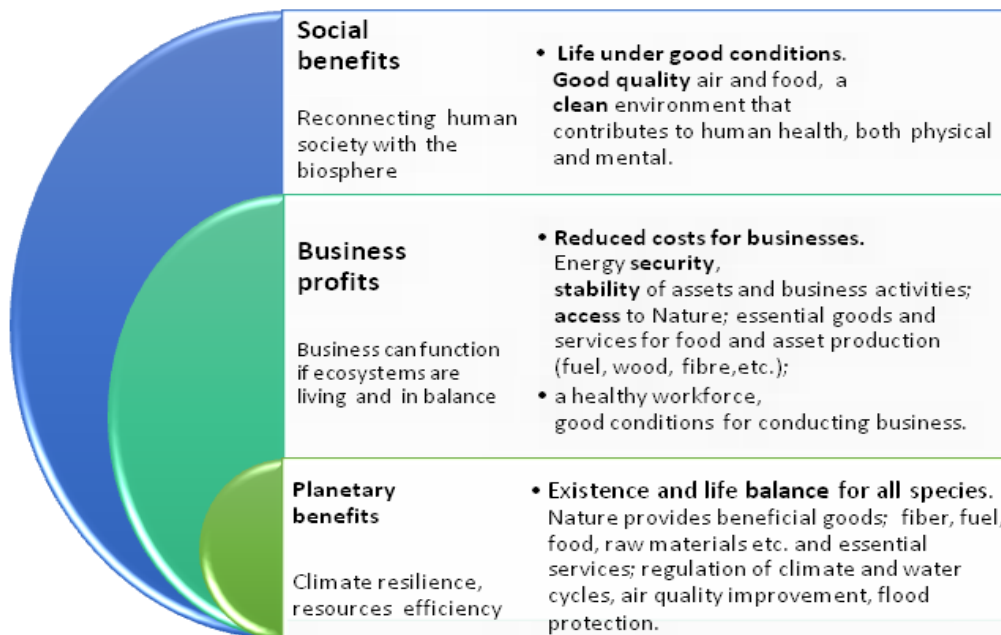


Figure 6, Benefits and profits, modified⁹, Ivona Sak

5.4 COLLECTIVE ACTION – WORK TOGETHER TOWARDS SUSTAINABLE DEVELOPMENT

“GDP accounts for everything except that which makes life worthwhile.” - Robert Kennedy, 1968

5.4.1 One Critical Issue

Related to Economic Growth we consider the most urgent issue is to explore and promote growth and prosperity within the Earth's limits, and **alternative ways to measure growth**, where economic growth is only a means and in which **wellbeing is the ultimate goal**.

We cannot have sustainable development as long as our progress in unlimited economic growth! A valid measure of growth must also consider the environmental and social costs that exist and are increasing.

5.4.2 How can we explore and promote growth and prosperity and alternative ways to measure growth?

There are several **groups and organizations discussing these issues**. At the end of this booklet we provide several steps you can take. Stay informed and participate in networks and discussions.

Discuss this booklet with friends and in groups, and please share this booklet on social media.

- Start or join a group on economic growth and wellbeing.
- Work for a change of path towards sustainable development: visit [The Economics of Ecosystems and Biodiversity \(TEEB\)¹¹](#), global initiative focused on “making nature’s values visible..”, see [how to focus company's attention on sustainable decision making¹²](#).
- Join us on [Facebook](#) and participate in our [LinkedIn](#) group .Participate in conversations.
- Be part of the discussions.

6 DEVELOPMENT GOALS

Millennium Development Goals (2000-2015)

Sustainable Development Goals (2016-2030)

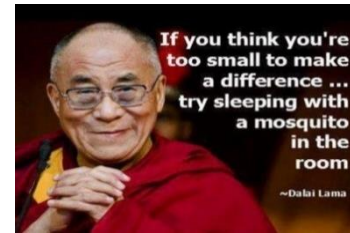


Figure 1, HH the Dalai Lama¹¹

6.1 WHAT WERE THE MILLENNIUM DEVELOPMENT GOALS?

After the World Summit, in the year 2000, the extensive outcome document, **The Millennium Declaration**, was translated into 8 key development goals and 21 measurable targets, for **health, education, and the environment**. The goals were defined so that they complemented each other in combating human and economic poverty and they addressed directly or indirectly critical issues for sustainable development. [See here](#) for a full list of goals and targets¹.

6.1.1 The background

Since the Declaration of Human Rights was adopted by the United Nations in 1946, good experience was gained in how to achieve social development. See timeline of conferences below. The *World Summit for Children*² in 1990, was a milestone, when 72 heads of state and representatives met and agreed for the first time on measurable, time-bound goals for survival, health and education.



The goals and targets for children were the result of a long process identifying the most critical issues for development at that time, and how to solve them. In low income countries this initiated a “social revolution”; schools and health centres were built and started to operate out in the most remote areas; national health and education structures and policies were developed for the first time. As a result, the lives of millions of children were saved and many started to go to school. With this, human capacities were developed and the base was laid that made possible, the rapid economic growth that has taken place over the last 20 years in most developing countries.

The MDGs are a continuation and expansion of the Summit for Children Goals, just as the SDGs follow on the MDGs, as illustrated in **the above timeline**. Social development is something we make happen with research, social mobilization and commitments. Behind the successes there have been, at times, heroic efforts and sacrifices by community members, health workers, teachers, government officials, NGOs and the UN, in order to implement these policies in challenging environments.



Figure 2, Camels bringing vaccine bigstock9photos

6.1.2 Progress of MDGS

The baseline for the MDGs is 1990, meaning that targets are measured from that year. For more information see [MDG Report 2015](#).³



MDG1 has been met globally; the level of **economic poverty** was halved five years ahead of goal. Sub-Saharan Africa has made good progress but need more time to achieve this goal. Still, 1 in 5 persons in the developing world lives on less than \$ 1.25 USD per day and 1 in 7 children is underweight.

91% of children in developing countries now enjoy **primary education**. The target is 100%. Sub-Saharan Africa had rapid increase from 52% in 1990 to 80% in 2015. The number of out-of-school children has been cut by almost half since 2000. Foreign aid for primary education in Africa is unfortunately declining.

Disparities between boys and girls in school enrolment have narrowed, which is part of MDG3, **Gender Equity**. There are more women in national parliaments. Programmes to support participation of women yielded especially good results in Rwanda and Bangladesh.

The MDG4, **Child Mortality**, has declined with more than half from 90 to 43 deaths per 1000 live births. The MDG4 target was a reduction in mortality of two thirds, so the goal will not be met. 16,000 children still die every day. Most of these deaths can be prevented.

Maternal health is related to the respect of women and their rights. Globally, maternal mortality dropped by 45% but the target is a 75% drop in maternal mortality across the globe. Most of the maternal deaths in 2013 took place in Sub-Saharan Africa (62%). **Sierra Leone** has the highest maternal mortality rate at **1,100 per 100,000 women** while **in Europe only 1 per 100,000** die. In Nigeria, 40,000 women die giving birth every year.

In the fight against **tuberculosis and malaria**, more than 37 million lives were saved in the past decade and **new HIV infections declined by 40% between 2000 and 2013**. Sub-Saharan Africa is most affected with 15 million new infections in 2013. 6.2 million malaria deaths were prevented due to antimalarial interventions.

For the **environment**, there are **few positive results**. Although deforestation has somewhat declined, millions of hectares of **forests are lost** every year. **Biodiversity loss** is catastrophic and global **emissions of carbon dioxide (CO₂)**, increased by over 50% since 1990. **Water scarcity** affects 40% of global population but access to improved drinking water sources increased to 91% of the population.

Development assistance was 0.3% of Gross National Income, far from the **0.7 target**. **The decline in assistance to education is of special concern**. **79%** of imports from developing countries are duty-free. The **debt burden** on developing countries remains stable.

6.2 WHAT ARE THE SUSTAINABLE DEVELOPMENT GOALS?

6.2.1 *The Sustainable Development Goals are our Roadmap towards Sustainable Development.*

At the Sustainable Development Conference in Rio de Janeiro in 2010, it was agreed that a new set of goals, the Sustainable Development Goals (SDGs) would be developed to take the success of the MDGs farther. These goals should include all three pillars: **economic, social, and environmental development and they should be based on human rights and equality, leave none behind.**

6.2.2 *Secretary General's Synthesis Report*

Following extensive worldwide consultations with numerous working groups and conferences with civil society (13.000 organisations from 100 countries), governments, business communities, world experts and the *My World Survey* of 7 million people, a final proposal of 17 goals and 169 targets was presented. See complete list of [SDGs here](#).⁵

The recommendations from the consultations and from the expert reports were published in the *SG's Synthesis Report*. This report served as background information for the drafting and negotiation of the goals.

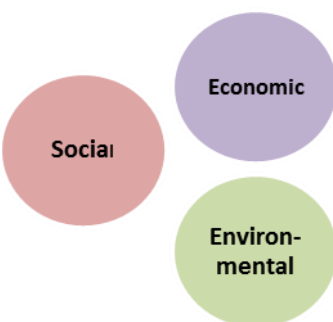
The SDGs were adopted at the **UN General Assembly at the end of September 2015.**

UN Secretary General's Synthesis Report⁴, *The Road to Dignity by 2030: Ending Poverty, Transforming All Lives and Protecting the*

As a clarification, the MDGs and the SDGs are not UN goals, as some people believe. They are global (our) goals, developed, adopted, and implemented by the countries of the world.

6.2.3 *Challenges we face today*

We have come a long way in social development. More than one billion people have come out of poverty since 1990 and more people have access to health and education but there are also people who are left out. 1.2 billion⁶ still live in extreme poverty, and inequalities are increasing within and between countries. There are enormous disparities of opportunity, wealth and power. Unemployment, especially youth unemployment, is growing. We see increase in conflict, violence, extremism and humanitarian crises and as a consequence, desperate people are trying to escape, some to the high income countries. Poverty, social and economic inequalities and climate change threaten to reverse much of the development progress made in recent decades.



As we saw in Chapter 2, Planetary Boundaries, we already passed 4 of the boundaries in our ecosystem, beyond the limit nature is capable to recover and in Chapter 1, Climate Change, we saw the consequences we and our planet will confront if we let the temperature increase more than 2⁰C. The survival of our societies, and of the planet itself, is at risk. The 3 dimensions of sustainable development are disconnected! (See figure to the left). They should interact and strengthen each other.

We have the capacities to get it right, and we can all of us, live a better, healthier life in a world that is just, equitable, inclusive and in balance with the nature we depend on.

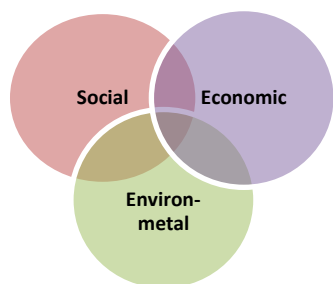
Figure 3, The 3 development dimensions are disconnected

The Sustainable Development Goals are about how to get there.

6.2.4 What's new in the SDGs?

As illustrated in the timeline on the first page of this chapter, the SDGs or the 2030 Agenda, as they also are called, build on the MDGs, but it is a much broader agenda, responding to the challenges and opportunities we face today. The world is now more globalized, we are connected through internet, an active civil society has evolved worldwide, and citizens in general will (and must) play an active role in development. The goals embrace for the first time all three dimensions of sustainable development and they are not only goals for low but also for high income countries. Sustainability is global, it has no borders. We are all in on this together.

With the SDGs the three dimensions of development merge and become one circle with 17 integrated goals (one colour for each goal) for a sustainable future, based on wellbeing of people and planet.



6.2.5 New Goals

Information is taken from, [Transforming Our World, the 2030 Agenda for Sustainable Development](#)⁷.

SDG 10, Reduce inequalities within and between countries. The 40 per cent of the population with the lowest income should have a higher growth rate than the national average and equal opportunities; discriminatory laws, policies and practice should be eliminate; migration policies should be planned and well-managed.

SDG 7, 8, 9, 12 Energy for all, foster inclusive economic growth, shared prosperity and sustainable lifestyles for all. Sustainable; per capita global food waste be halved; prices set right through taxation; harmful subsidies be phase out without affecting the poor; banking, insurance and financial services accessible for all; transport systems sustainable; innovation be fostered.

SDG 16 promotes peaceful, safe, just and inclusive societies. Access to justice should be provided for all; effective, accountable and inclusive institutions created and capacities to prevent violence and to combat terrorism and crime should be developed.

6.2.6 SDG Goals that also were MDG Goals

The SDGs build on the MDGs and take them further, aiming for inclusion; leave no one behind.

The table below connects MDGs with SDGs, and the respective chapters in this booklet, that reflect on those goals.

<i>MDG/SDG Goals</i>	<i>As SDGs these goals also include</i>	<i>See Chapters</i>
MDG goals 1, 2, 4, 5, 6 end poverty and hunger, secure education, health and basic services for all	SDG 1, 2 , poverty and hunger, include also sustainable agriculture. SDG 3 , universal health not only for children and women but for everybody SDG 4 , not only primary but also secondary education and lifelong learning.	3. <i>Poverty and Social Inclusion</i> 4. <i>Sustainable Cities</i>
MDG 3 , promote gender equality and empower women	SDG 5 , achieve gender equality and empower all women and girls.	3 <i>Poverty and Social Inclusion</i> 4 <i>Sustainable Cities</i>
MDG 7 , environmental sustainability, water, and sanitation. Target 7.D , to improve lives of slum dwellers.	SDGs 6, 13, 14, 15, 16 , protect the planet, fight climate change, use natural resources sustainably and safeguard biodiversity, our forests and oceans. SDG11 is to make cities inclusive, safe, resilient and sustainable.	1 <i>Climate Change</i> 2. <i>Planetary Boundaries</i> 4. <i>Sustainable Cities</i>
MDG 8 , global partnership for development.	SDG 17 , strengthen the global partnership. <u>Governments</u> ; redefine laws, structures and policies. <u>Business</u> ; redefine production and products. <u>Citizens</u> ; take a lead and work for sustainable development.	8. <i>MDGs/SDGs</i>

6.2.7 Funding

Implementation should be financed by public as well as private sources. There are trillions of dollars of private resources, investment funds, pension funds and other funds that can be invested in sustainable development goals and targets. Sustainable development also offers good business opportunities for the corporate sector. Long-term investments are required in critical sectors, especially in developing countries. As for foreign aid, all high income countries should meet the 0.7% target of development assistance (it is now 0.3%) and a more equitable multilateral trading system should be introduced.

6.3 GLOBAL AGREEMENTS IN 2015

The year 2015 will go to history as an important year, when the SDGs were adopted, a Climate Change agreement finally signed and the financing for development defined.

This represents unique opportunities to **redirect the trends towards social, economic and environmental sustainability**.

International Conference on Financing for Development⁸ in Addis Ababa, July 2015: to agree on how to finance sustainable development.

*Special Summit on Sustainable Development*⁹ at the UN General Assembly, September 2015; the Governments of the world agreed on the Sustainable Development Goals, a shift of direction for people and planet.

*21st Conference of the Parties (COP21)*¹⁰ of the UN Framework Convention on Climate Change in Paris, December 2015; **agreements and negotiations to change the devastating environmental trends** (to stay below the 2 degree Celsius increase).

6.4 WHAT CAN WE DO?

Promote decarbonization, follow the progress of the SDGs, and question delays in their implementation. All countries will, develop a Sustainable Development Strategy and Plan and an annual SDG Progress Report will be prepared and made public. This way we can all follow what is planned and how the plans are progressing in our country.

The Sustainable Development Goals are our shared framework and common targets to achieve sustainable development. Most people have not even heard of the SDGs and these conferences that should be followed up closely also by media. What do the leaders suggest, what do they agree on? The final commitments will affect our lives and our future.

- Share the information on the follow up of these conferences on social media, increase the interest and try to “wake up” the newspaper and television producers, and all those who are still asleep, stuck doing business as usual!
- Share and discuss this booklet with friends and groups.
- Build and join networks on the Climate agreements and the SDGs
- Join us on [Facebook](#) and [LinkedIn](#) and share your experience.



A call for action to change our world

“Ours can be the first generation to succeed in ending poverty; just as we are the last to have a chance of saving the planet.” The Road to Dignity by 2030⁴

CONCLUSION AND ACTION

In six chapters we have given a basic background on environmental, social and economic development. We have presented facts, challenges, opportunities and most important suggestions for action.

Over the last 50 years we have made fantastic progress in many areas but our planet is in a bad shape. The ecosystem is out of balance; air, water, oceans are being polluted, forests cut down, living species extinct and the climate is changing with devastating consequences. We have extreme poverty and extreme wealth, increasing frustration, migration, violence and war.

We wrote this booklet because we are convinced we can turn this around, save the planet, continue to progress and be healthy in a more sustainable and just world, leaving no one behind; a world free of poverty, hunger and disease and where all life can thrive; a world in which humanity lives in harmony with nature and nature can continue to provide services to humans and to all other living species.

We face the most serious challenges humankind ever confronted. Governments will play an important role for the transition to a new era of sustainability, but **the success will to a large extent depend on us** as individuals; that we actively participate, request, suggest, and ensure it happens in our communities and beyond. Internet and social media opens new possibilities to communicate and mobilize at local and global levels.

We conclude this booklet by putting **the critical actions** together. These are actions we are not accustomed to take but they address in a strategic way key issues for the deep change we need. Our action is urgent; it is about saving the planet and ourselves. We must get the CO₂ and the other GHGs to 0 by 2050, we must stay within the planetary boundaries, and we must eradicate extreme poverty and get our economic system right.

Our own way of living is of course also very important. The collective critical actions below are followed with suggestions on **what we can do in our daily life**. It is not enough to save the sick person you must also ensure the person stays healthy. We are 7 billion people on this planet. We have to start to live like one family, respecting each other; ensuring that there will be enough and a fair share for everybody and that the house is well in order.

1. Collective Action towards Sustainable Development

During the consultations for this booklet we were asked for the 5 most critical actions to take for sustainable development right now.

All chapters in this booklet are interlinked since they represent the 3 components of sustainable development, social, economic and environmental development, and each chapter concludes with **one critical issue** for our collaborative action for **achieving sustainable development**:

1. The most important issue in *Climate Change* is to **stay below the 2°C increase in temperature**, since it affects all other sustainability issues. See Chapter 1, How can I help decarbonise the planet.

2. The critical issue we suggest for *Planetary Boundaries* is to ensure sustainable consumption and production patterns. We propose to promote and practice **sustainable consumption**, and convince others to do the same. Request and buy certified products. Promote introduction of certification if not available.

3. For *Poverty and Social Inclusion* the overarching aim is to **leave no one behind** and the most critical issue we suggest in this chapter is that all children, especially girls and children living in poverty, can access and conclude at least secondary education.

Follow progress and trends, and take action for inclusive education in your community and in your country in a way that is possible for you.

4. In the *Sustainable Cities* chapter we saw how the three dimensions- social, environmental and economic development- are interlinked in a sustainable city. Cities can be **drivers for sustainable development**. The critical issue action we suggest for sustainable cities is to **develop a culture of sustainable lifestyle**. Be a leader for sustainability, join your peers and develop and spread an inclusive, sustainable life style and culture.

5. *Economic Growth*. Progress is currently measured in economic growth (GDP), that does not consider sustainability and social and environmental costs. The consequences are leading us in an unsustainable direction. A critical issue is to explore and promote **alternative measures of progress** where economic growth is only a means and **wellbeing the final goal**. We suggest you join groups and networks, **engage yourself in the discussion and share your insight and concern in our [Facebook](#) and [LinkedIn](#)**.

6. The *Sustainable Development Goals (SDGs)* are the goals and targets towards sustainable development to be achieved by all countries, rich and poor over the next 15 years.

We should all take the **SDGs** as the framework for global and national development, promote its implementation, follow progress, and question delays in implementation. In Annex II you find references to websites for SDG Plans and Progress.

Please, discuss and share this booklet with friends and on social media.

We also look forward to discussing these issues and the booklet with you in [Facebook](#), become a member of our [LinkedIn](#) Group.

2. What Can I Do, In My Everyday Life?

We were also asked for suggestions for applying sustainable practices to everyday life. You have probably seen some of these before, but we all must continue to work on them so they become part of our culture.

- **Reduce, reuse, recycle.** Reduce greenhouse gases that are produced when extracting/growing, manufacturing, and disposing of new products
- **Use water efficiently.** Water your land and garden as little and as efficiently as possible; repair leaks and do not let water run while washing the floor, shaving or brushing teeth. Take short showers. Limiting water use, particularly by taking shorter showers, reduces energy consumption from pumping, treating, and heating the water.

- **Balance your diet and do not waste food.** When people throw away food, all the resources that have been used to grow, ship, package and process that food are wasted, including the massive amounts of water involved in the process of growing, producing and transporting food. **For meat lovers, have meat free days in the week. Discover great vegetable dishes and eat locally grown food.**
- **Turn off the vehicle motors when stopping for more than 2 minutes. Try to use fuel-efficient, low-greenhouse gas vehicles** and public transportation. Walk or bike when possible. Leaving your car at home just two days a week can reduce your greenhouse gas emissions by an average of two tons per year. For longer distance travel, it is better to take a train than it is to take a bus or a plane.
- When shopping and at work/school, ask people, when relevant to produce **less waste** and to use less packaging, especially **plastics**.
- **Improve the heating and /or cooling systems in your home, use low energy bulbs and low energy machines. Remember to turn off equipment when it is not in use.** Use a minimum of energy and ask shops, buses, public buildings to do the same. Have your heating and/or cooling equipment maintained, and remember to seal and insulate your home (research double glazed windows in cold climates).
- Please add your own suggestions.

[We hope this booklet has inspired you](#), that you will join us to take action, that you will share the booklet and your insight with others and become a leader for sustainable development in your society. Together, we can save the planet and continue to progress. It is urgent, it is human and it is what we want. The future is in our hands. Nobody will do it for us. We must act and act now!

ANNEX I: BIBLIOGRAPHY

Chapter 1. Climate Change

1. Ippc. Climate change 2007 : impacts, adaptation and vulnerability : Working Group II contribution to the Fourth Assessment Report of the IPCC Intergovernmental Panel on Climate Change. *Assessment 1*, 976 (2007).
2. Rahmstorf, S. A new view on sea level rise. *Nature Reports Climate Change* 44–45 (2010). doi:10.1038/climate.2010.29
3. Tol, R. S. J. The double trade-off between adaptation and mitigation for sea level rise: An application of FUND. *Mitig. Adapt. Strateg. Glob. Chang.* 12, 741–753 (2007).
4. Sullivan, K. D. & Louis W. Uccellini. *Post-Tropical Cyclone Sandy , October 22 – 29.* (2012). at <<http://www.nws.noaa.gov/os/assessments/pdfs/Sandy13.pdf>>
5. Murray, V. & Ebi, K. L. IPCC Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation (SREX). *Journal of Epidemiology & Community Health* 66, 759–760 (2012).
6. Murray, L. (University of M. C. for E. S. How does climate change affect coral reefs? at <http://www.teachoceanscience.net/teaching_resources/education_modules/coral_reefs_and_climate_change/how_does_climate_change_affect_coral_reefs/>
7. National Oceanic and Atmospheric Administration (NOAA). Coral Reefs – An Important Part of Our Future. at <http://www.noaa.gov/features/economic_0708/coralreefs.html>
8. UNEP World Conservation Monitoring Centre. International Coral Reef Action Network.IUCN--The World Conservation Union. In the front line : shoreline protection and other ecosystem services from mangroves and coral reefs. *UNEP-WCMC biodiversity series* 33 p. (2006).
9. Sachs, J. D. *The age of Sustainable development.* (Columbia university press, 2015).
10. Lenny, B. et al. *Climate Change 2007 : An Assessment of the Intergovernmental Panel on Climate Change. Change* 446, (2007).
11. Sustainable Development Solutions Network and Institute for Sustainable Development and International Relations. *Pathways to Deep Decarbonization.* (2014). at <http://unsdsn.org/wp-content/uploads/2014/09/DDPP_Digit_updated.pdf>
12. Global Footprint Network <http://www.footprintnetwork.org/en/index.php/GFN/page/calculators/>
13. UN Framework Convention on Climate Change <http://www.cop21.gouv.fr/en>

Chapter 2. Planetary Boundaries

1. World population graph (1950-2050). US Census Bureau, International Data base, June 2011 <https://www.census.gov/population/international/data/idb/worldpopgraph.php>
2. Figure Planet boundaries; From 2015 update of Planetary Boundaries, Source: Steffen and others, 2015. *Science* Vol. 347 no. 6223. Illustration by F. Pharand-Deschênes/Globaïa.
3. Figure Average cumulative Mass Balance of “reference” glaciers worldwide, 1945-2014. WGMS (2013, updated): *Glacier Mass Balance Bulletin* No. 12 (2010–2011). Zemp, M., Nussbaumer, S. U., Naegeli, K., Gärtner-Roer, I., Paul, F., Hoelzle, M., and Haeblerli, W. (eds.), ICSU(WDS)/IUGG(IACS)/UNEP/UNESCO/WMO, World Glacier Monitoring Service, Zurich, Switzerland, 106 pp. Data based on database version doi:10.5904/wgms-fog-2014-09.
4. WWF: how much of a problem is deforestation?, source: http://wwf.panda.org/about_our_earth/top_5_environmental_questions/top_5_questions_about_forests/
5. Graph Global Living Planet Index. WWF. 2014. *Living Planet Report.* WWF International, Gland, Switzerland. See full report: http://wwf.panda.org/about_our_earth/all_publications/living_planet_report/living_planet_index2/

6. Photo, Lonesome George at the Charles Darwin Research Station, photograph taken in December 2006, Wikipedia.
7. World resources Institute, , <http://www.wri.org/resource/world-hypoxic-and-eutrophic-coastal-areas>
8. "The nine planetary boundaries" 2015. <http://www.stockholmresilience.org/21/research/research-programmes/planetary-boundaries/planetary-boundaries/about-the-research/the-nine-planetary-boundaries.html>
9. "Plastic waste inputs from land into the ocean". Jenna R. Jambeck, Roland Geyer, Chris Wilcox, Theodore R. Siegler, Miriam Perryman, Anthony Andrady, Ramani Narayan and Kara Lavender Law. Science 13 February 2015: 768-771. [DOI:10.1126/science.1260352]
10. Graph, Global water use and population: Figure shows the rate of growth in freshwater withdrawal and consumption has been even more rapid than global population growth. Source: Shikomanov 1999, US Census Bureau 2011
11. Global Climate Change by NASA. Just 5 questions: Aerosols, 2009. <http://climate.nasa.gov/news/215/>
12. World Health Organization(WHO), http://www.who.int/gho/phe/outdoor_air_pollution/en/
13. NASA photo showing the hole in the ozone layer over Antarctica , 2006, Antarctic Ozone Layer, Source: Wikipedia; https://simple.wikipedia.org/wiki/Ozone_layer
14. The Marine Stewardship Council (MSC) is an international non-profit organization established to address the problem of unsustainable fishing and safeguard seafood supplies for the future. Currently over 28,000 products in around 100 countries carry the MSC label showing seafood that comes from a certified sustainable fishery. Find out more at msc.org.
15. Forest Stewardship Council (FSC) is an independent, non-profit organization that protects forests for future generations. It is an open, membership-led organization that sets standards under which forests and companies are certified. Membership consists of three equally weighted chambers - environmental, economic, and social - to ensure the balance and the highest level of integrity. Find out more at www.fsc.org

Chapter 3. Poverty and Social Inclusion

1. Nelson Mandela's speech; Make Poverty History, London 2005, <http://www.makepovertyhistory.org/extras/mandela.shtml>.
2. MDG Report 2014, <http://www.un.org/millenniumgoals/2014%20MDG%20report/MDG%202014%20English%20web.pdf>
3. World Bank, <http://www.worldbank.org/en/topic/poverty/overview>.
4. Goldman Sachs, BRICs monthly May 2010. Middle class in the fast growing BRIC countries, <http://www.goldmansachs.com/our-thinking/archive/archive-pdfs/brics-decade-pdf.pdf>.
5. 2011 census of India. http://www.censusindia.gov.in/2011census/PCA/PCA_Highlights/pca_highlights_file/India/4Executive_Summary.pdf.
6. IMF Regional Economic outlook. Sub-Saharan Africa economic growth <https://www.imf.org/external/pubs/ft/reo/2015/afr/eng/pdf/sreo0415.pdf>.
7. UN ESA. Sub-Saharan Africa population increase <http://esa.un.org/wpp/Demographic-Profiles/pdfs/947.pdf>.
8. Figure 1. picture, Nelson Mandela-2008, (ezMandela) in Johannesburg, Gauteng, on 13 May 2008. This image is a derivative work of source of Nelson Mandela-2008 (edit).jpg licensed with Cc-by-2.0 2010-07-17T13:53:30Z Anghy, (Archibald Tuttle). Author: Nelson_Mandela-2008_(edit).jpg: South Africa The Good News.
9. Figure 2. picture, bigstock-slum-area-of-manila-philippin-18769655 shadow216.
10. Figure 3. Extreme poverty. World Bank. <http://www.worldbank.org/en/topic/poverty/overview>.

11. Figure 4. Sachs, J. (2015). The Age of Sustainable Development. Extreme poverty rates in %. World Bank estimate.
12. Figure 5. UNICEF. 2010 PFC report, 2010 State of the World Children Report.

Chapter 4. Sustainable Cities

1. Sachs, J. (2015) Age of Sustainable Development. Columbia University Press.
2. SDSN Edu Online Course. Planetary Boundaries and Human Opportunities Elmqvist, T. Chapter 6. Cities, Deutsch, L. Chapter 7. Food.
3. United Nations, World Urbanization Prospects Report (2014), <http://esa.un.org/unpd/wup/Highlights/WUP2014-Highlights.pdf>
4. Westhorpe, C. How Do We Develop Sustainable Cities?
5. Tristram, S. TED presentation, https://www.youtube.com/watch?v=cWC_zDdF74s
6. Figure 1. Picture. Air pollution, Kuala Lumpur, Malaysia 2005. CC Flickr by servus.
7. Figure 2. Picture. Waterfront Walkway Burlington, Ontario, Canada.
8. Figure 3. Economic Growth, GDP per capita in 1990 US dollars.
9. Figure 4. Picture. Electric car. Håkan Dahlström/Creative Commons . <http://www.worldbank.org/en/news/feature/2015/05/11/decarbonizing-development-zero-carbon-future>.

Chapter 5. Economic Growth

1. European Commission, 2015, Gross Domestic Product, http://ec.europa.eu/environment/beyond_gdp/indicators_gdp_en.html
2. European Commission, 2015, Beyond GDP, Measuring Progress, True Wealth, And The Wellbeing of Nations, http://ec.europa.eu/environment/beyond_gdp/index_en.html.
3. Sachs J., Coursera Online Course, 2014, The Age of Sustainable Development, Week 2 Economic development – How we measure it, how it varies around the world.
4. The Social Progress Imperative, 2015, Social Progress Index, <http://www.socialprogressimperative.org/data/spi>, Executive Summary, 14 April 2015, <http://www.socialprogressimperative.org/publications>.
5. Sachs J., Coursera Online Course, 2014, The Age of Sustainable Development, Week 3 A Short History of Economic Development by Jeff Sachs.
6. Wikipedia, 2015, Time line of historic inventions, https://en.wikipedia.org/wiki/Timeline_of_historic_inventions.
7. The Encyclopedia of Earth, 2012, London smog disaster, England, www.eoearth.org/view/article/154281/.
8. End Ecocide Earth, 2015, Bhopal accident, <https://www.endecocide.org/examples/>,
9. Information extracted from:
 - World Economic Forum , 2015, Global Risks 2015, Insight Report, 10th Edition.
 - Sachs J. 2015, The Age of Sustainable Development.
 - United Nations Environment Programme UNEP Finance Initiative International Environment House, 2006, Show Me the Money. Linking Environmental, Social And Governance Issues to Company Value, 2006 Report, http://www.unepfi.org/fileadmin/documents/show_me_the_money.pdf.
 - Natural Capital Solutions, 2012, Sustainability Pays. Studies that prove the business case for sustainability, <http://www.natcapsolutions.org/businesscasereports.pdf>.
 - UNEP, October 2011, From Rio to Rio+20 (1992-2012), http://www.unep.org/geo/pdfs/keeping_track.pdf.
 - Giampietro, Kozo Mayumi, Aleygul H. Sorman, 2014, Metabolic Pattern of Societies: Where Economists Fall Short.

- OECD, 2015, Framework for Statistics on the Distribution of Household Income.
 - WHO, 2005, Being Ecosystems And Human Well-Being Health Synthesis, Report, <http://www.who.int/globalchange/publications/ecosystems05/en/>.
 - Stockholm University, Stockholm Resilience Centre, SOS for Business 2015, <http://www.stockholmresilience.org/download/18.6d8f5d4d14b32b2493577/1422535795423/SOS+for+Business+2015.pdf>.
10. Attributed to Boulding in 1973, United States. Congress. House (1973) Energy reorganization act of 1973: Hearings, Ninety-third Congress, first session, on H.R. 11510. p. 24811.
 11. <http://www.teebweb.org/>.
 12. https://www.ted.com/talks/ray_anderson_on_the_business_logic_of_sustainability

Chapter 6. MDGs, SDGs

1. Millennium Development Goals. <http://mdgs.un.org/unsd/mdg/Host.aspx?Content=Indicators/OfficialList.htm>
2. <http://www.unicef.org/specialsession/about/world-summit.htm>
3. Millennium Development Goals Report 2015. [http://www.un.org/millenniumgoals/2015_MDG_Report/pdf/MDG%202015%20rev%20\(July%201\).pdf](http://www.un.org/millenniumgoals/2015_MDG_Report/pdf/MDG%202015%20rev%20(July%201).pdf).
4. UN Secretary General's Synthesis Report. 4 December 2014. The Road to Dignity by 2030, www.un.org/en/development/desa/publications/synthesis-report.html
5. Sustainable Development Goals: <https://sustainabledevelopment.un.org/sdgsproposal>
6. World Bank. Poverty: <http://www.worldbank.org/en/topic/poverty/overview>
7. Transforming Our World, the 2030 Agenda for Sustainable Development <https://sustainabledevelopment.un.org/topics>
8. International Conference on Financing for Development in Addis Ababa in July, 2015. Adopted outcome document, http://www.un.org/esa/ffd/wp-content/uploads/2015/08/AAAA_Outcome.pdf
9. Special Summit on Sustainable Development at the United Nations in September, 2015, <https://sustainabledevelopment.un.org/post2015/summit>
10. 21st Conference of the Parties (COP21) of the UN Framework Convention on Climate Change in Paris in December, 2015, <http://www.cop21paris.org/>
11. Picture. His Holiness the Dalai Lama, tibet.net

ANNEX II: INTERESTING WEBLINKS

For your convenience we have made a list of web links related to sustainable development and to the chapters in **Take action, enter a new era**. They are interesting sites that you might use for more information and to get new contacts but we do not endorse any of these organizations or their work, the authors of **Take action, enter a new era**, are not professionally linked to any of them.

Chapter 1. Climate Change

- http://www.afd.fr/lang/en/home/projets_afd/AFD-et%20environnement/changement_climatique/60-solutions
- <http://www.epa.gov/climatechange/kids/index.html>, <http://www.epa.gov/climatechange/>
- A US EPA calculator, Carbon Footprint Calculator | Climate Change | US EPA www3.epa.gov/carbon-footprint-calculator/
- Global warming is not merely a problem. Fotoexhibition with 60 opportunities. http://www.afd.fr/lang/en/home/projets_afd/AFD-et%20environnement/changement_climatique/60-solutions_

Chapter 2. Planetary boundaries

- UNEP and the sustainable consumption/production programme, 10YFP, <http://www.unep.org/10yfp/Programmes/ProgrammeConsultationandCurrentStatus/Sustainablelifestylesandeducation/tabid/106266/Default.aspx>
- <http://www.stockholmresilience.org/21/research/research-programmes/planetary-boundaries.html>
- <http://blog.ted.com/the-future-of-the-sustainable-earth-johan-rockstrom-at-tedglobal-2013/>
- <http://www.sustainablebrands.com> and <http://leonardodicaprio.org>

Chapter 3. Poverty and Social Inclusion

- Girls' Education Initiative, <http://www.ungei.org/>
- <http://www.odi.org/programmes/growth-poverty-inequality>

Chapter 4. Sustainable Cities

- A case: Istanbul <http://www.sustineoistanbul.com>
- Leading Sustainable Cities, <http://www.fastcoexist.com/3016816/the-10-cities-that-are-leading-the-way-in-urban-sustainability>
- <http://www.charterforcompassion.com>
- <http://www.fastcoexist.com/3016816/the-10-cities-that-are-leading-the-way-in-urban-sustainability>

Chapter 5. Economic Growth

- <http://sustainable-economy.org/> "... environmental economics think tank
- <http://www.un.org/en/sections/priorities/economic-growth-and-sustainabledevelopment/index.html>.
- <http://www.humansandnature.org/sustainability--well-being--and-economic-growth-article-116.php>

Chapter 6. Millennium Development Goals and Sustainable Development Goals

- Sustainable Development Platform UN, <https://sustainabledevelopment.un.org/index.html>
- <https://sustainabledevelopment.un.org/topics/sustainabledevelopmentgoals>

Inspirational webs and TED Talks, Action groups and Free media alerts:

- https://www.ted.com/talks/lord_nicholas_stern_the_state_of_the_climate_and_what_we_might_do_about_it
- https://www.ted.com/talks/pavan_sukhdev_what_s_the_price_of_nature.
- Avaaz, <https://www.avaaz.org/en/>
- End Eccocide on Earth, <http://www.endecocide.org>
- 350.ORG, <http://350.org/>
- <http://www.huffingtonpost.com/news/climate-change/>
- <http://www.theguardian.com/uk/environment>

Institutions/Universities:

- <http://www.yaleclimateconnections.org/>
- <http://www.earthinstitute.columbia.edu/sections/view/9>

Organizations mobilizing for change in social, economic and environment space:

- <http://storyofstuff.org/>
- <https://solutions.thischangeseverything.org/>

ANNEX III: PRESENTATION OF AUTHORS

“Take action, enter a new era” is in itself a proof that it is possible to join forces with people from around the world and mobilize for the future we want. The authors of this booklet come from 5 different countries, are of different ages, cultures and backgrounds and have never met personally. They connected through the MOOC course, The Age of Sustainable Development set up by Columbia University and Professor Sachs. This course and the book with the same title ([see here](#)) give an excellent orientation on sustainable development. **Take action, enter a new era** builds on that course combined with the rich professional experience of each one of the authors. **Take action, enter a new era** is a call for action for a future of wellbeing for us, the humans, and for the planet we love and depend on.



Ann-Lis Svensson (Sweden) is the Founding Director of Rio Monte, an organization dedicated to partnership for sustainable development and poverty reduction.

Between 1992 and 2007 Ann-Lis was the UNICEF Country Director, representing the UN in various countries in Asia, Latin America, and Europe. As member of top management in the UN, in large oil and regional development corporations, and as director within international NGOs and the Swedish international development cooperation, SIDA, Ann-Lis played a direct and active role in social development that has taken place over the last 30 years.



Ayşe Sakar (Turkey/Canada) has a BA in economics. She has worked in the finance and accounting field for NGOs in Turkey and Canada for 25 years. While working in the finance sector, she has followed new economic trends and world issues. For the last two years, she has been studying about sustainable development and solutions for better living conditions for all.



Carolina Hoyos (Colombia) comes from a family that filled her with love for nature and the living world. She graduated as a microbiologist and after some years in Colombia, she decided to continue her studies in France - her “host and friendly country” as she calls it. She has devoted herself to study environmental sciences, getting a Masters and a PhD in the field. Today, she works as a research engineer looking for sustainable solutions to pollutants and waste spending much of her time in inaccessible places for most people. Carolina says she is never happier than when immersed in nature to understand its infinite wisdom.



Eugenia Arribas (Spain) has a degree in Hotel Management by the Lausanne Hotel School (CH). After decades of traveling around the world working for tourism, and acquiring entrepreneurial, management and coordination skills in various private sectors, she specialized in Sustainable Tourism Development and International Cooperation at the George Washington University together with the World Tourism Organization (UNWTO). She is a believer of the wellbeing for all and works towards that goal.



Ivona Sak (Poland) is a creative expert in the brand, corporate responsibility and sustainability areas, with more than 10 years' experience in advertising. She works with organizations across the sustainability ecosystem, including Global Reporting Initiative, that are looking to align their brand proposition with creating a better world, in pursuit of creating products that people can trust and buy. Ivona is a practitioner with solid knowledge and more than 15 years experience in business as Managing Director, Director of NGO's, and member of Board of Directors.