



Sustainable  
development

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Understanding of **sustainable development** is not just an opinion on how humanity as a whole and in particular society is developing, but mainly it considers opinions of a model of society that can guarantee its existence

**From ancient times, people have tended to create a society in way to ensure not only benefit themselves, but also for the community to be able to exist in the long term**

**It is known from history that countries that were applied to the «millennial» existence, had often collapsed during some decades**

## Progress of sustainable development progress depends on:

- **Consumption and production patterns**
- **Planet's capacity to meet the growing population**
- **Eco-efficiency and productivity of human activities**
- **Ways and tools for shaping the future**



## SOCIAL CHANGES IN THE WORLD

Great human development transition in connection with **the Agricultural and Industrial Revolutions** could not change people attitude to the environment, nor the relationship between people themselves

These two historical revolutions divided the mankind into three groups:

- Hunter-gatherer society,
- Agrarian society,
- Industrial society

The relationship «man-environment» and «person-to-person» is very important now and for the future

There are still existing small hunter-gatherer communities

Ju/Hoansi in South Africa, Ache in Paraguay, Haji in Tanzania, Merriams in Australia

Merriams or island people of the Torres Strait still are primal hunters, fishers, gatherers of plants that have survived through the millennia in local communities

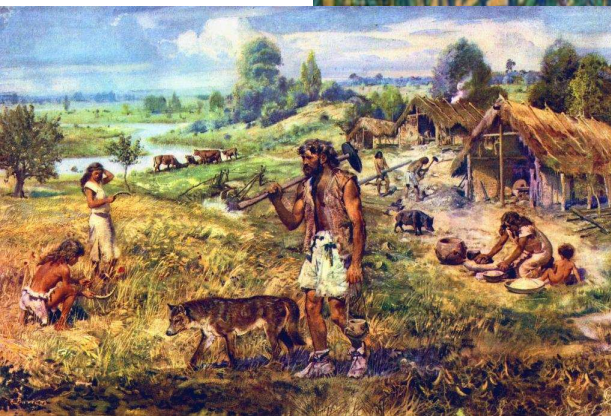


In the absence of successive transition from one type of society to another, there is the possibility of a return to the previous type of community, but it happens very rarely



Whereas, a direct jump from the hunter-gatherer society to industrial society is impossible

Hunter-gatherer society was completely dependent on that what was caught or found – they did not have the opportunity to accumulate some wealth or to improve their well-being



Such society can be described as egalitarian – absolutely equal to all its members with a common property (habitat), common food and similar social status

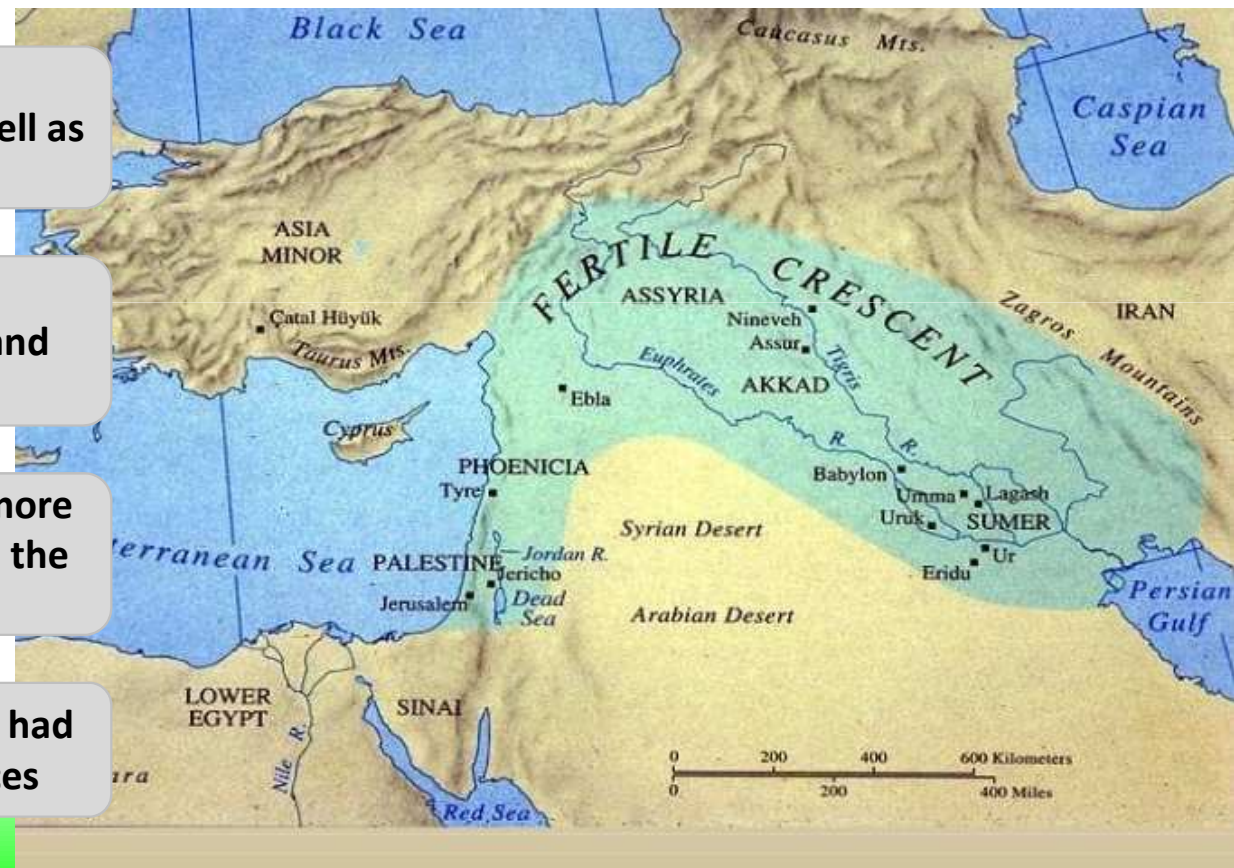
**Agrarian societies** sowed and harvested – produced and stockpiled food, and was able to accumulate more wealth – tools, weapons, ornaments which witnessed an increase of wellbeing

There was a chance to increase the population of community, and hence the division of labor began as well as the social structure changed

After some time, conditions occurred in which the expressed majority were forced to provide products and services for a very small elite group of community

Later the leading class began to form and the class of more knowledgeable member of society which together laid the foundation for a new social order

For the safety and protection of the lower class people had to invest in their work, produced products and services





The current, **industrial society**, is characterized by that the food production is not the predominant activity any more

Most of the production consists of a strong and constantly growing industry of technologies

In contrast to the agrarian society, support of industrial society is not of single innovations, but significant scientific discoveries - only with their help it is possible to solve the problems of a new era

Findings in the agricultural sector reduced the need for manual labor providing opportunities to use it in other areas

Our location in transition scale is not precisely determined, but living in the current way of thinking and within the well-known patterns, the civilization could remain as losers even in not so distant future



**Previous transitions did not take place  
simultaneously around the world**

**Also the next transition apparently will start in one place,  
where there will be entwined all the necessary preconditions  
that will bring long-term benefits**

**Now is extremely important to understand the  
previous major social changes in order to  
successfully carry out the future  
for the sake of our own**

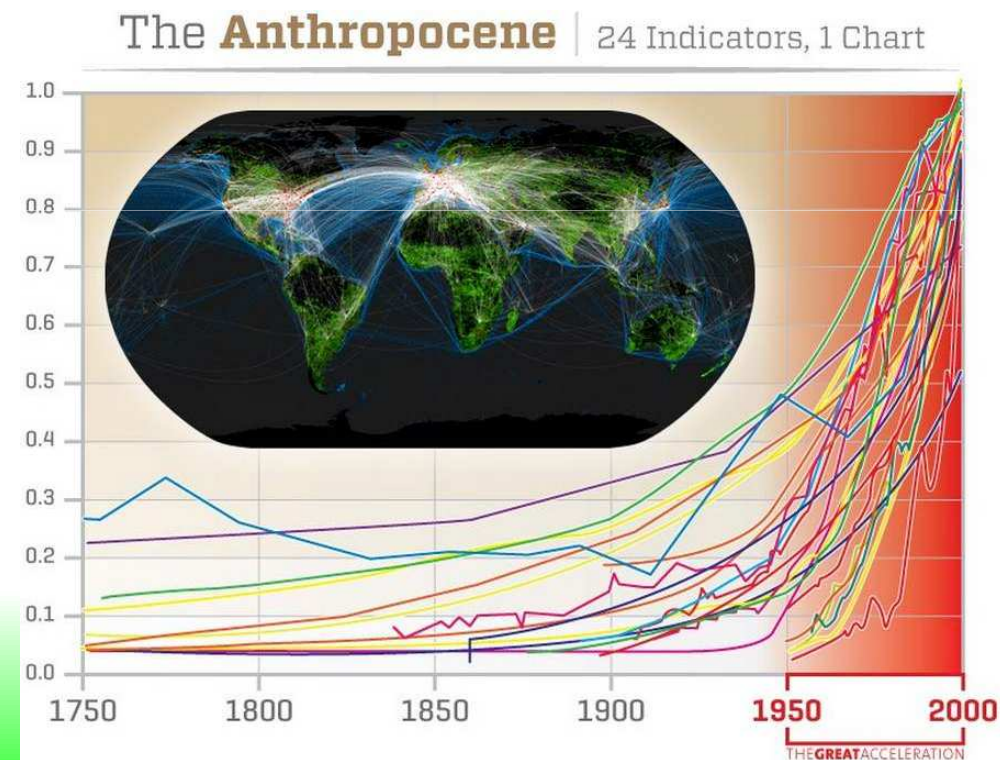
The current geological period is known as **the Anthropocene**, thus demonstrating that human activity has become equivalent to the powerful forces of nature – now we already are able also to essential destructive activities

The Anthropocene – the era, which is characterized by increased impact of human activities on ecosystems resulting in many extinct plant and animal species, changed terrains and landscapes

Our future is uncertain, but the world is dynamic and complex – we are only human and can not predict the future

The only thing we can do is to foresee what might happen and with what probability and consequences it could happen

We should gather all the knowledge and experience to make optimal decisions for the sustainable future



# ECONOMIC DEVELOPMENT OF THE WORLD



By moving fast forward on humanity's historical timeline it has managed highly efficient growth and spread –

people traveled to every habitable corner of the planet, and even to some not so appropriate, for example, deserted places

forests and marshes turned into farmlands, and village, later towns and cities, began to grow like mushrooms

small groups of people even appeared on frozen poles and space stations orbiting the planet

# EXPONENTIAL GROWTH

Modern «growth of the growth» has no well-defined beginning, however, it has many decisive turning points

For example, European seafarer's discoveries and colonization of North and South America, stopping of feudalism in Europe, forming commercial governance –

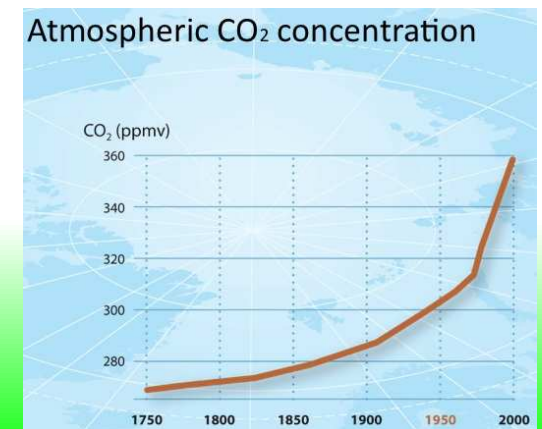
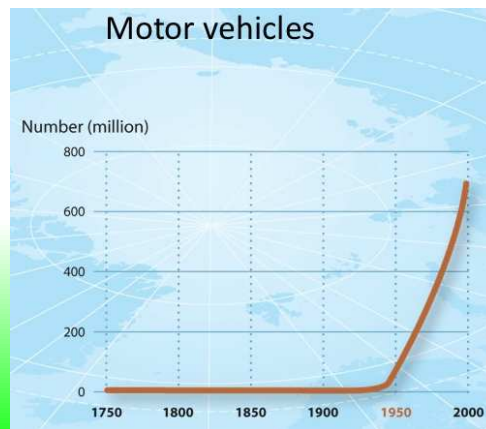
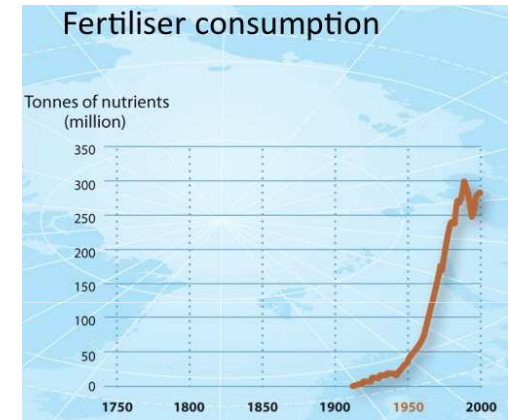
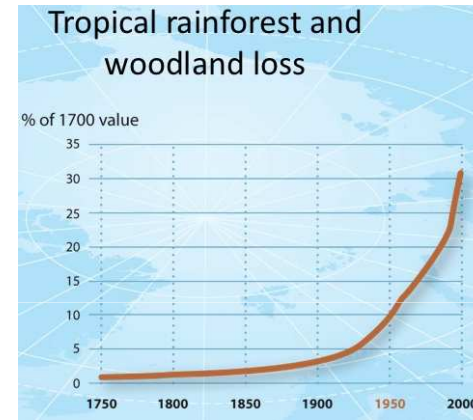
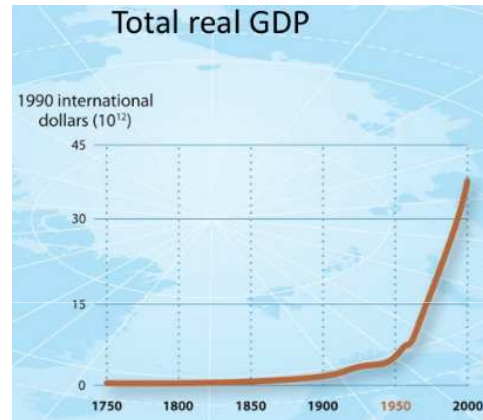
it opened development of entrepreneurial skills for all classes of people and accelerated dissemination of new technologies



At some point the growth was «acceleration»; statistical data show an increase in population, use of resources, production, trade, travel, quantity of waste, density of communication and many other areas by mid of 1800-ies

Then around the 1950-ies there was a relatively sharp elevation – almost all indicators of economic growth in recent decades are similar and show a trend of exponential growth

Many curves that graphically characterize global changes still retain the sharp rise – they are named as «**The Great Acceleration**»



During the late 1800s, when all of the land was already occupied, but gold and other resources were already distributed among the countries, significant attention was paid to the processes for **the use of monetary resources in lifting of economic activity**

It was another one more way of how people focused from real «growth», when people spread all over the planet, to the «economic growth»

When from the accumulated resources of raw materials (earth, metal, wood), using a variety of processes were acquired other things that as a new value was converted into monetary value

Process of industrial production became more efficient, converting the ores to metals, and then producing products from derived metals in industrial plants, which in turn could use the same energy to perform an increasing amount of work, for what people were willing to pay more and more money



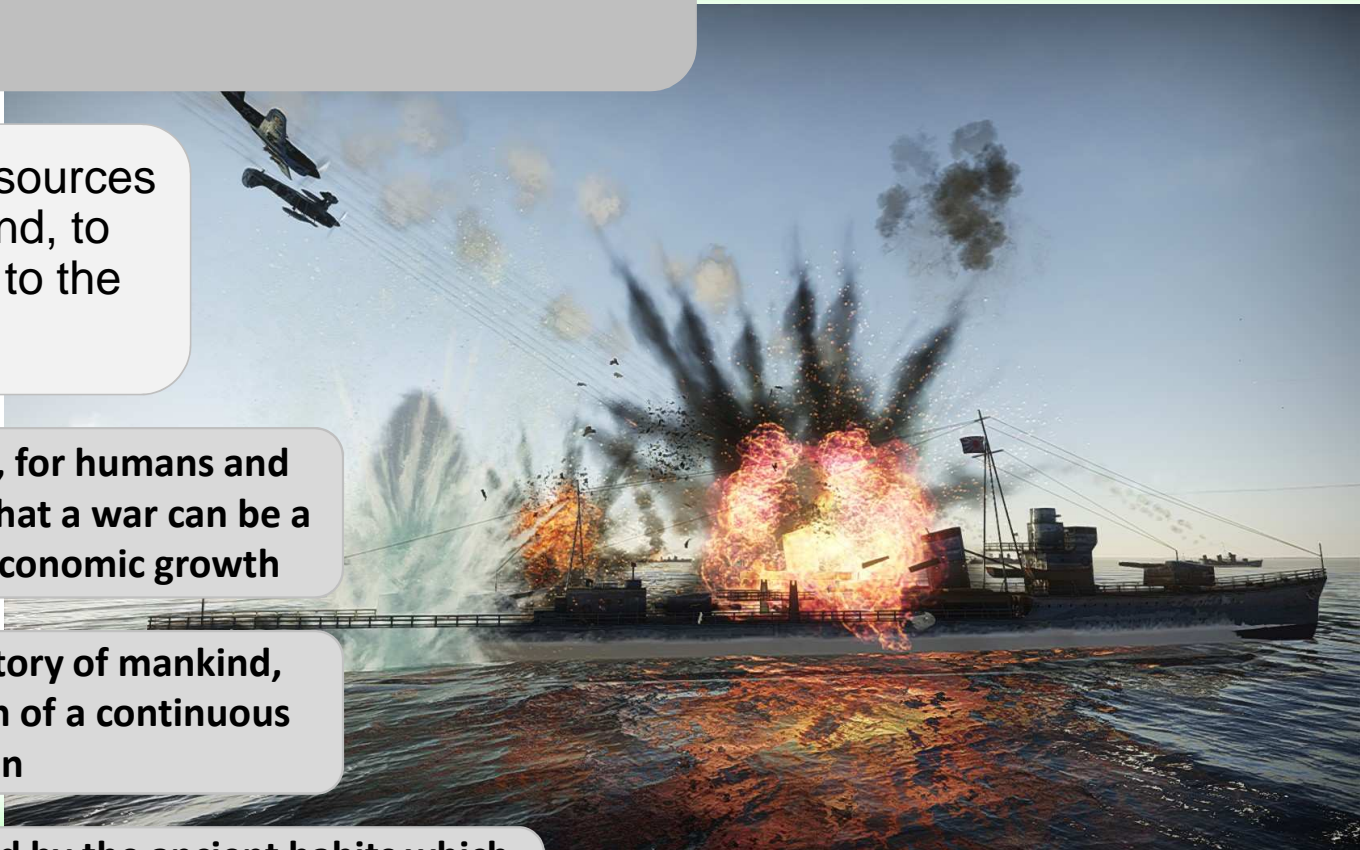
# GROWTH AND WARS

The fight for power, goods and resources led to sharp political disputes and, to some extent, it was a precursor to the World War I

By contrast, war required terrible costs both, for humans and for the environment; however, it turned out that a war can be a positive event from the perspective of the economic growth

Formation of empires, the is recorded in history of mankind, always has been driven by the political vision of a continuous and rapid economic expansion

World wars of the 20<sup>th</sup> century were promoted by the ancient habits which were equipped with modern technologies and complemented by many times more destructive power of empire builders

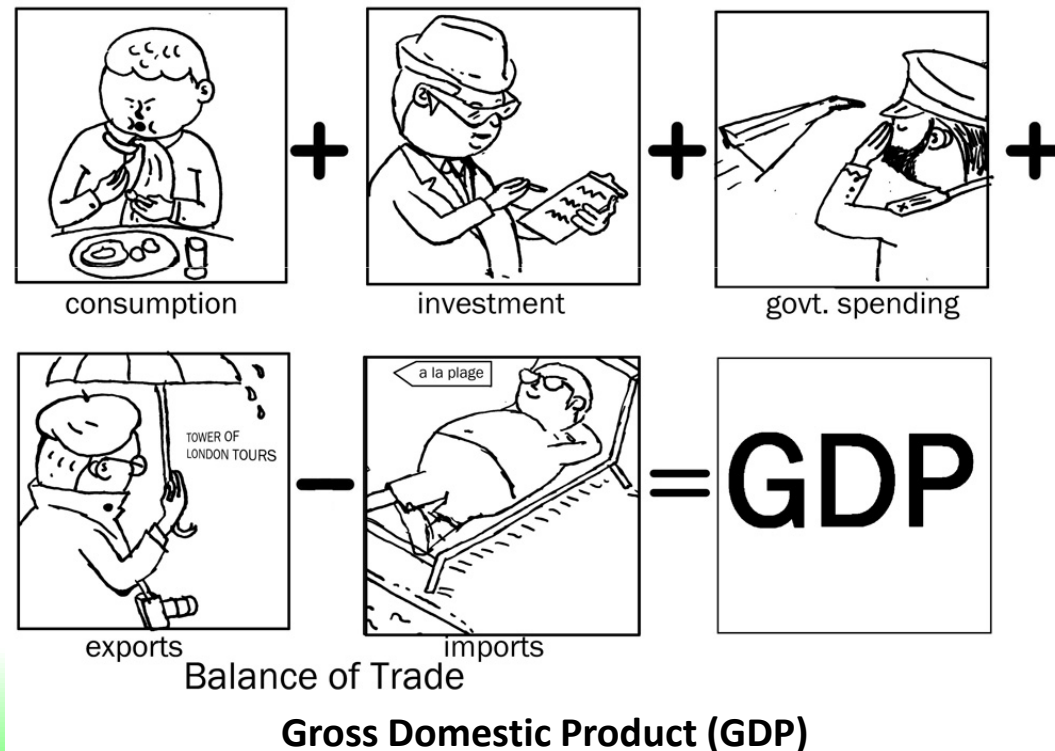


The war has proven to be one of the ways of the world to provide substantial monetary economic growth and increase of **gross domestic product (GDP)**

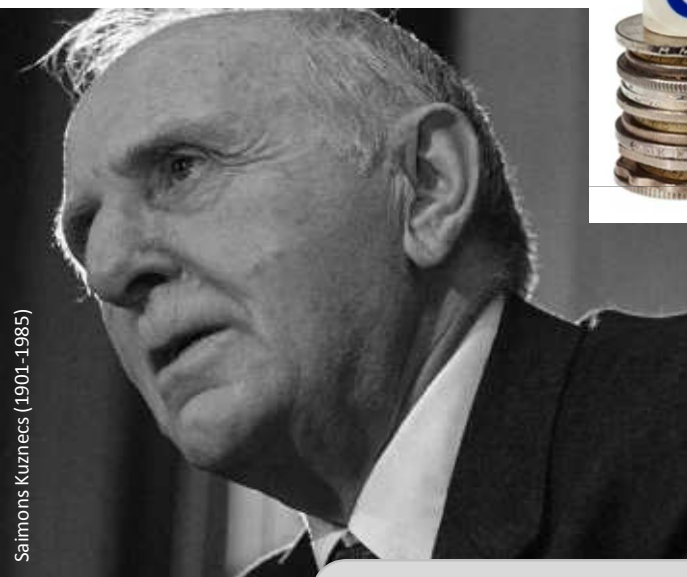
GDP means all the ongoing economic performance of a country expressed in monetary terms within a specified time period

If the numerical value of GDP becomes larger – there is an economic growth; if it becomes smaller – the economic recession, but if the recession continues for a long time – it is named as depression

GDP reports to the world community for progress of each nation



**The implementer of GDP, Simon Kuznets, was worried that his invention could be used maliciously** (launprātīgi)



**Kuznets about his worries reported to the US Congress in 1934, warning that the statistics of new national economics should not be used to assess the overall prosperity of the people**

**However, the warnings of GDP inventor were ignored and by the increase of global financial and economic system, GDP became increasingly important as the indicator of economical achievements**

**UN figures, reflecting the socio-economic status, regular reports on GDP growth, state media that actually praises «growth as usual» and many other examples again and again serve to strengthen the domination of GDP**

## GROWTH «AS USUAL»

If only GDP data are used as a victory flag, civilization is moving towards collapse

Only by finding and using other indicators, it is possible to understand that economic growth leads to a growing troubles



Starting with the 1950-ies, growth curves for many human actions increased sharply, not just only due to GDP but also due to physical expansion, thus they were measured in terms of number of people and the amount of resources

The exception was the warnings expressed by scientists and writers such as Rachel Carson with the book «Silent Spring» published in 1962 and Paul Ehrlich with the book «The Population Bomb» (1968), which revealed the idea that **there are limits of the planet's growing human activities**

### 'Silent Spring' Is Now Noisy Summer

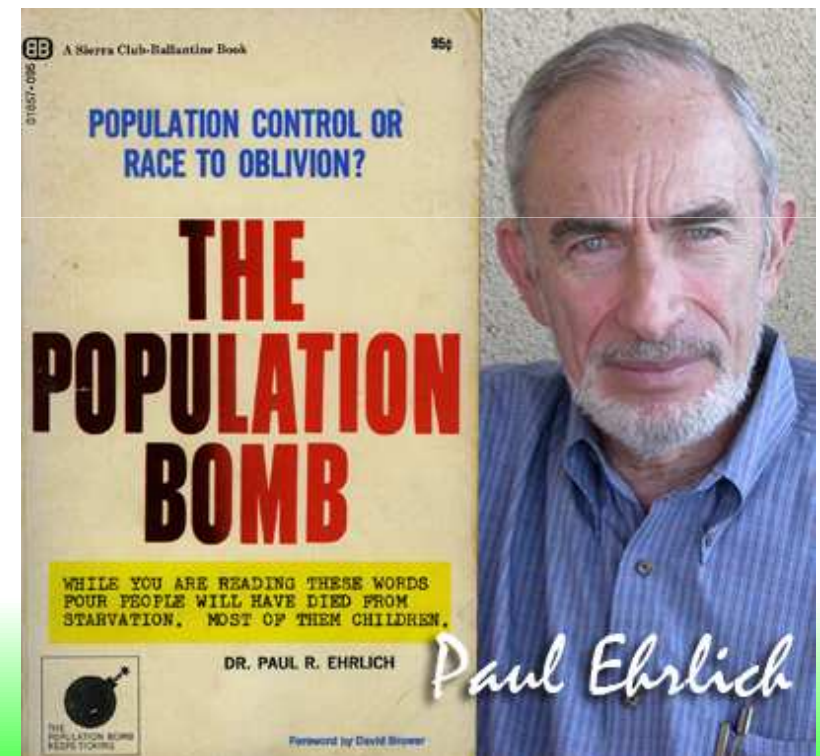
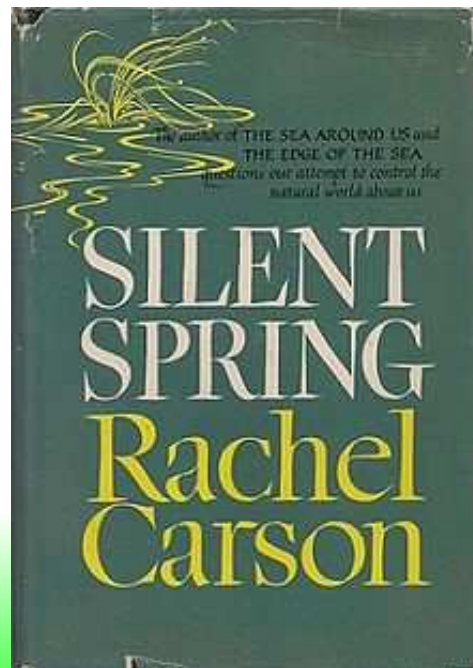
Pesticides Industry  
Up in Arms Over  
a New Book

By JOHN M. LEE  
The \$300,000,000 pesticides industry has been highly irritated by a quiet woman author whose previous works on science have been praised for the beauty and precision of the writing.  
The author is Rachel Carson, whose "The Sea Around Us" and "The Edge of the Sea" were best sellers in 1951 and 1955. Miss Carson, trained as a marine biologist, wrote gracefully of sea and shore life.  
In her latest work, however, Miss Carson is not so gentle,



Rachel Carson Stirs  
Conflict—Producers  
Are Crying 'Foul'

tending the use of their products. Meetings have been held in Washington and New York. Statements are being drafted and counter-attacks plotted.  
A drowsy midsummer has suddenly been enlivened by the greatest uproar in the pesticides industry since the cranberry scare of 1959.  
Miss Carson's new book is entitled "Silent Spring." The title is derived from an idealized situation in which Miss Carson envisions an imaginary town where chemical pollution has silenced "the voices of spring."



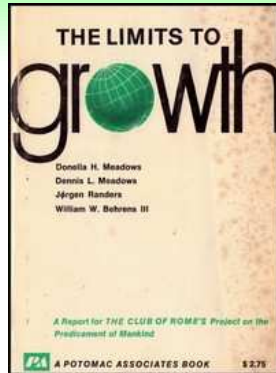
Year 1972 also was significant by **the first UN Global Conference on the human environment** in Stockholm, which reflected a number of new concerns and the necessary care for the future of the planet

The Stockholm Conference is considered as the starting point of the world summits of environmental and development issues

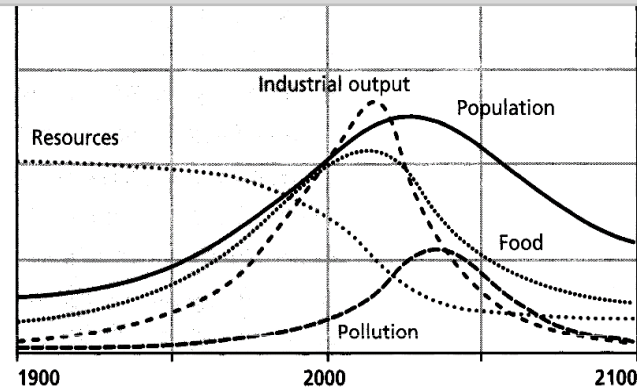
In 1972, the world's first ministries of environment were created and the first comprehensive environmental laws were established in the USA and several European countries



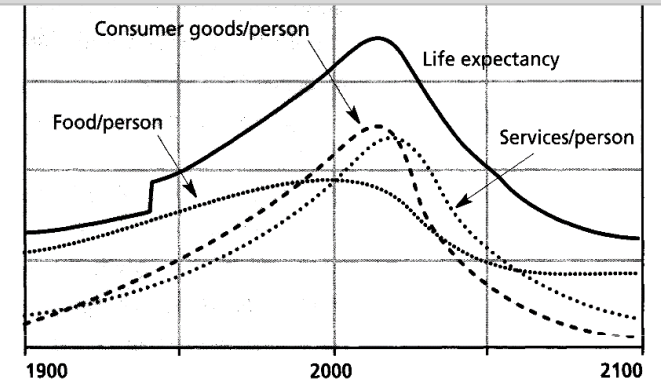
However, no other event reflects better the year 1972 as a turning point in the history as **the research «Limits to Growth»** performed by the Club of Rome and the Massachusetts Institute of Technologies



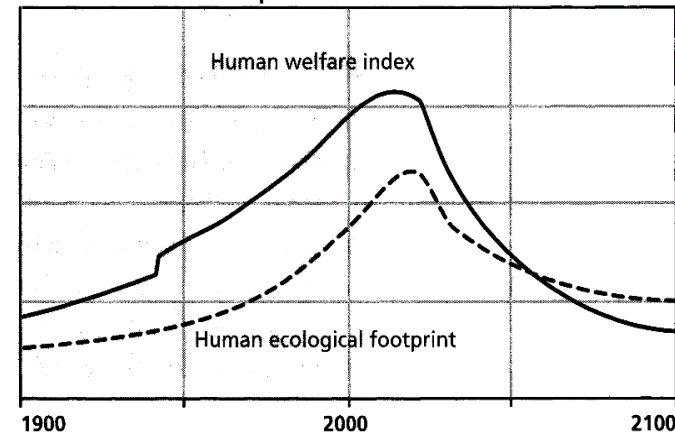
State of the world



Material welfare



Human Welfare and Footprint



Society and economics are dependent on air, water, food, raw materials and organic fuel streams that come from the Earth, but these flows cause pollution and waste streams



Good illustration of an exponential growth is the Persian legend of the wise courtier, chess-board and rice grains

Limits of growth actually are a global resource constraints and the planet's limited capacity to absorb waste and pollution

Exponential growth is the driving force of the public economics approaching the planet's physical borders

Many human activities ranging from mineral exploitation to urban development are growing exponentially – it is rooted in human culture and become an integral part of the global structure

**Population and capital are the engines that provide the growth of the industrialized world**

**Other indicators – food production, use of resources and pollution – also are tended to grow exponentially because they are influenced by the number of inhabitants and the capital**

**Food production, use of resources and energy are increasing rather than due their capacity, but because the exponentially growing population requires more and more food, materials and energy**

**Turnover of capital can be described by exponential growth, exponential decline or dynamic balance**

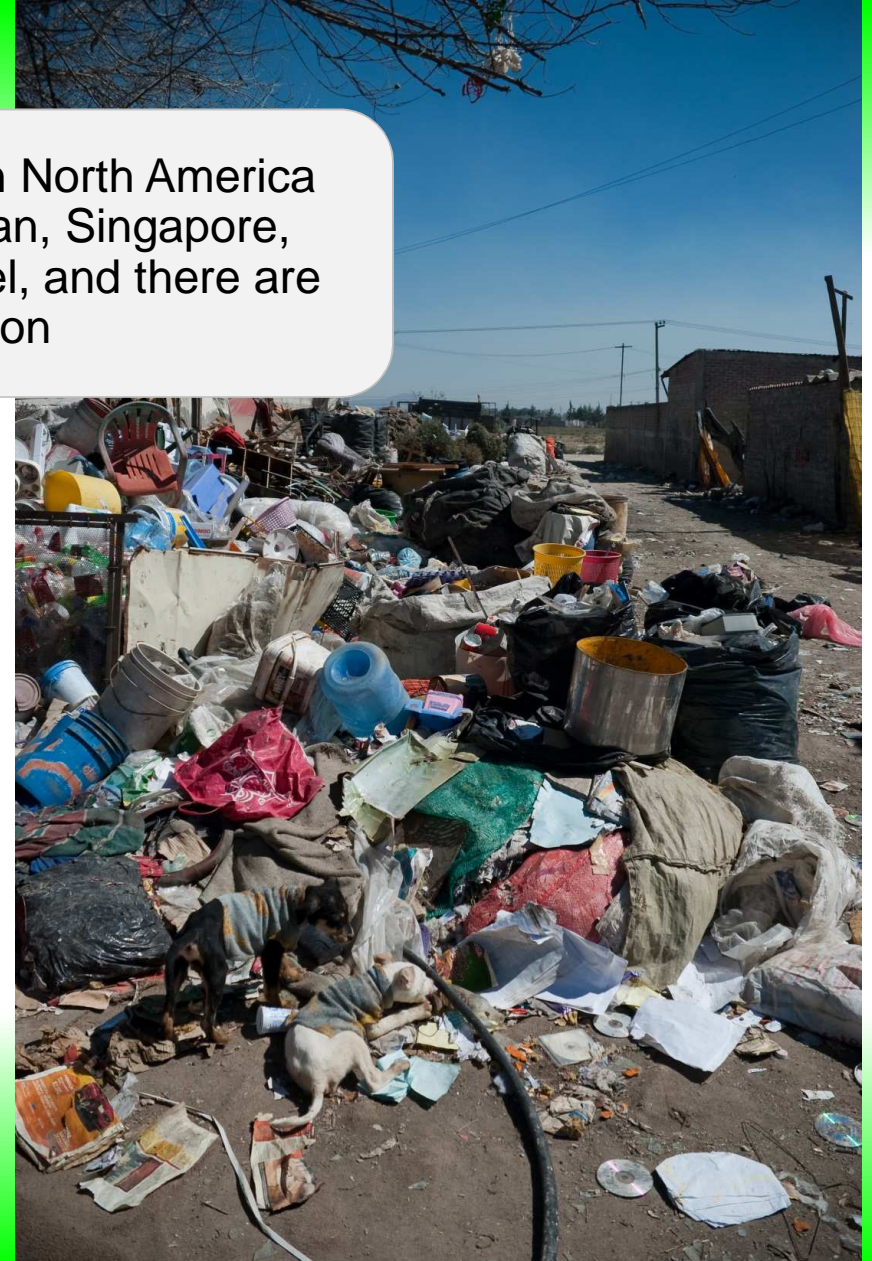


**The world's 20 richest countries** are mainly located in North America and Western Europe, but this group also includes Japan, Singapore, Australia, New Zealand, United Arab Emirates and Israel, and there are living about one-fifth of the world's population

**More than three billion people live in the poorest countries of Africa and Asia**

**Annual income of an average citizen in the world's richest countries is 100 times higher than for an inhabitant of a country with low income**

**Lifestyle of prosperous population has a significant impact on consumption of global resources; e.g., in the USA where lives 5% of the world's population, about a quarter of world's production of goods are consumed and nearly half of all industrial waste are produced**



Economist Jeffrey Sachs, the UN Millennium Development Project Director, points out that it would be possible to eradicate extreme poverty in the world by 2025 if richer countries would donate only 0.7 % of national income to aid for poor countries

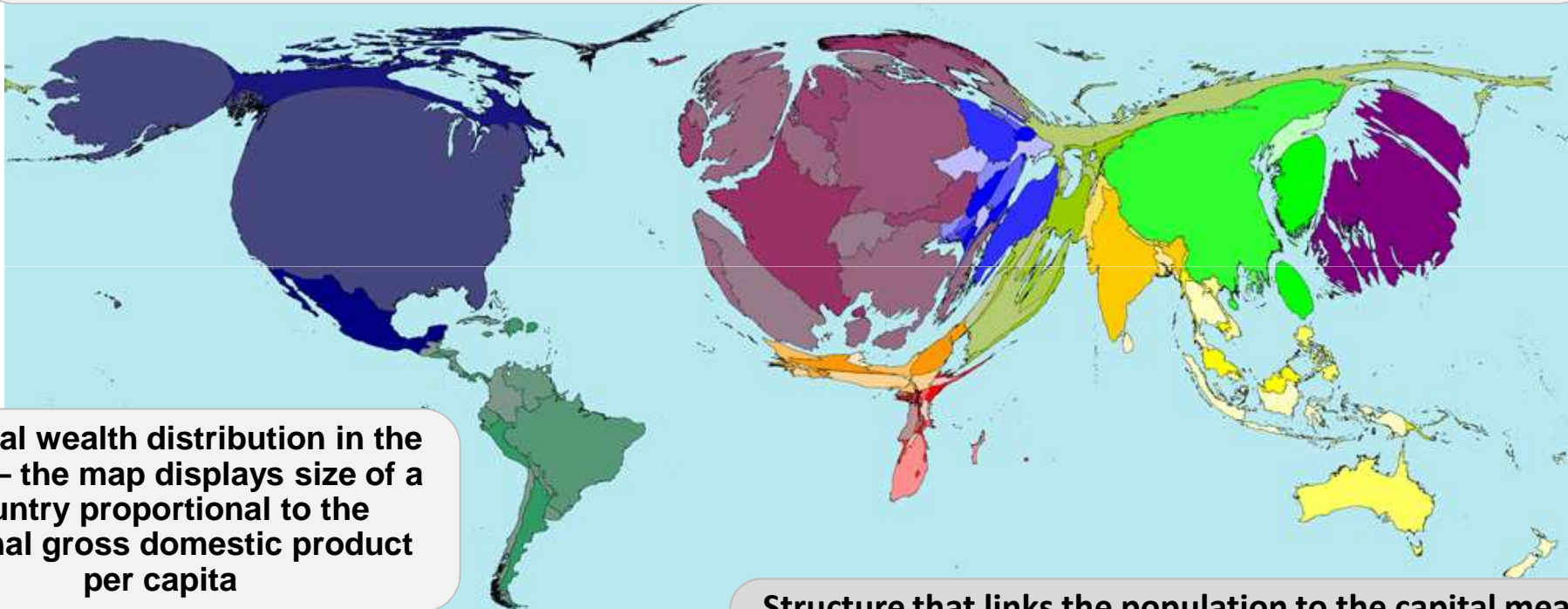


**Funds should be used for children vaccination against infectious diseases, primary education, facilities of drinking water and sanitation, food for starving etc.**

**The amount (about 100 billion EUR per year) is much higher than it is now donated, but the question is about the priorities –**

**currently, expenses for military purposes ranges around a trillion EUR a year, which is equivalent to half of the world's population income during the year**

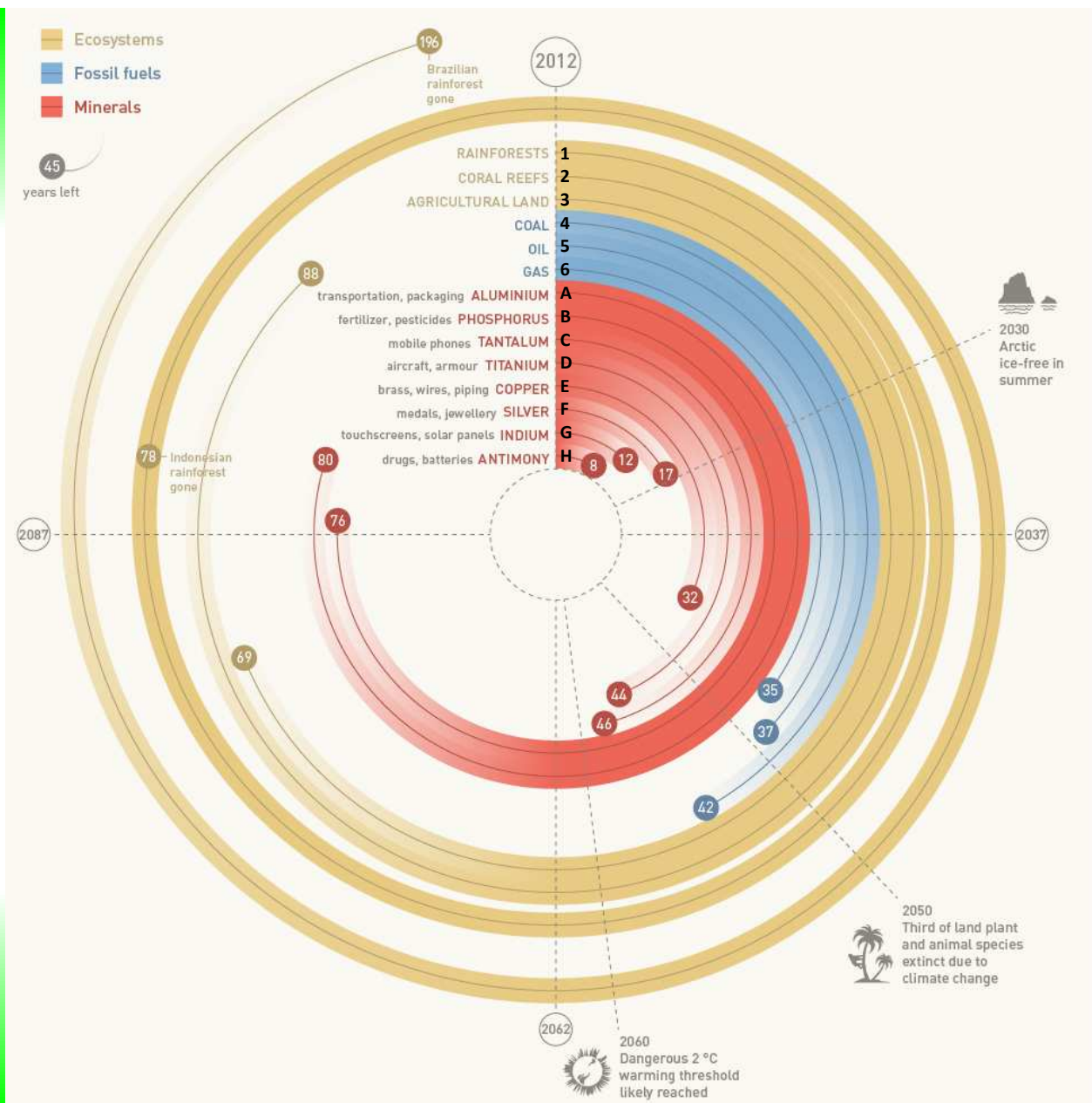
Poverty is promoted by corruption, low level of education and incorrect management, but people are exposed to the growth model which increases the population, but does not allow to become richer



National wealth distribution in the world – the map displays size of a country proportional to the national gross domestic product per capita

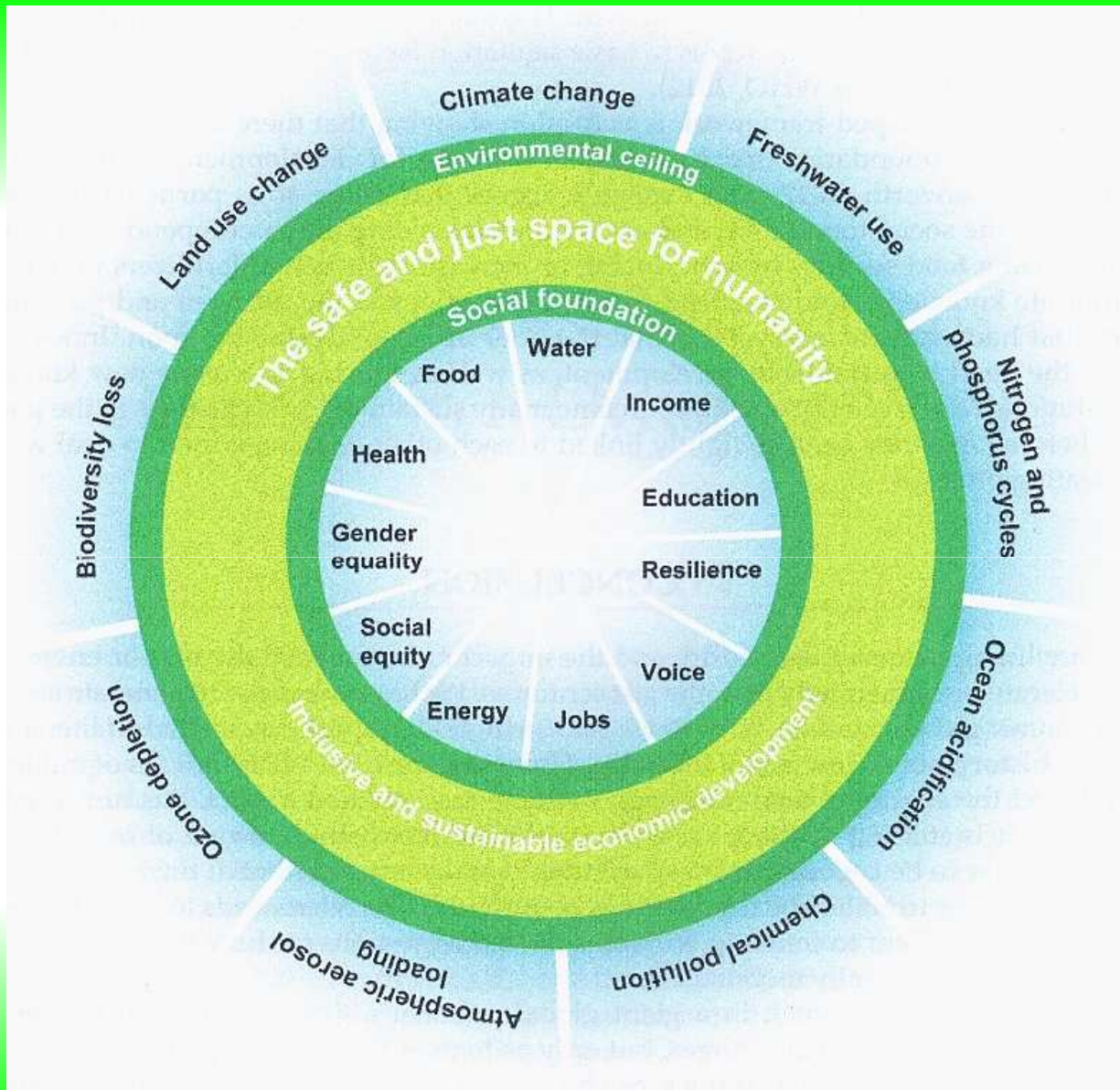
There are substantial limits for capital growth in poor countries due to population growth and other reasons

Structure that links the population to the capital means that the global economic scenario is realized by a principle which is well characterized by an old proverb – «a rich is getting richer, but a poor has children»



# LIMITS OF DEVELOPMENT

Remaining amount of non-renewable resources in the world



## LIMITS OF DEVELOPMENT



Interaction of environmental and social factors for safe environment

# CONCEPT OF SUSTAINABLE DEVELOPMENT

Concept of sustainable development includes physical conditions, political concept, quality of life and well-being and optimized impact on the environment to ensure that the resources are equally available to all generations

Concept is based on the understanding of three major concepts: development, needs of society and needs of future generations

Not only short-term processes (to ensure the needs of the present) are considered, but also provision of equal opportunities between the generations

Truly sustainable society would be one that could exist forever



## FRAMEWORK OF SUSTAINABLE DEVELOPMENT



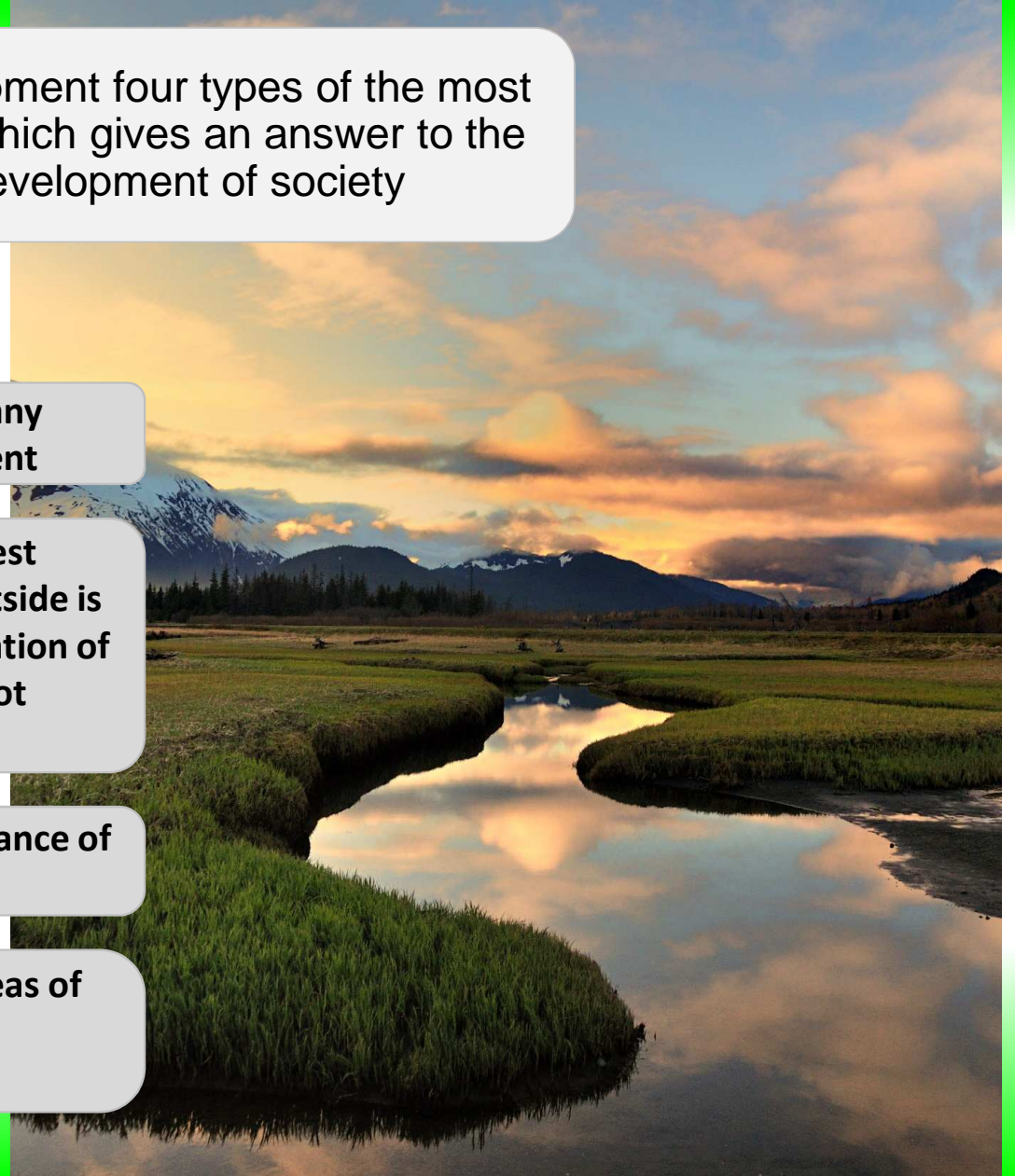
## The main challenges of sustainable development:



1. **Conservation of resources – ensuring the availability of resources not only for current, but also for future generations**
2. **Balanced development of human-made and natural environment**
3. **Development of society for provision of acceptable environmental quality by discontinuing or limiting the processes that degrade the environment**
4. **Social equality**
5. **Participation of society in public, governmental and environmental management to ensure support for sustainable development**
6. **During the implementation process of sustainable development the changes regarding values must be implemented**

Within the basic principles of sustainable development four types of the most important sustainability should be considered, which gives an answer to the question «**How to do it?**» to ensure the development of society

1. Diversity is considered as a necessary condition for any system (including the society) for further development
2. Subsidiarity means all possible functions at the lowest possible level of administration; assistance from outside is desirable only if it is contributing to the implementation of a certain function, but at the same time, if it does not dangerously reduce subsystem autonomy
3. The principle of cooperation emphasizes the importance of horizontal, non-hierarchical mutual interaction
4. The principle of participation corresponds to the ideas of democracy and it is the basis for the diversity of approaches



# INTERNATIONAL COLLABORATION FOR IMPLEMENTATION OF SUSTAINABLE DEVELOPMENT

**Multilateral international environmental agreements (conventions)** are one of the oldest forms of cooperation in solving issues of climate, nature, environment and sustainable development

After the United Nations Conference on the Human Environment in 1972, international environmental agreements have become the main way of global environmental governance

However, contracts are more tended to emphasize the international diplomacy rather than simplify technical understanding and performance of environmental problems



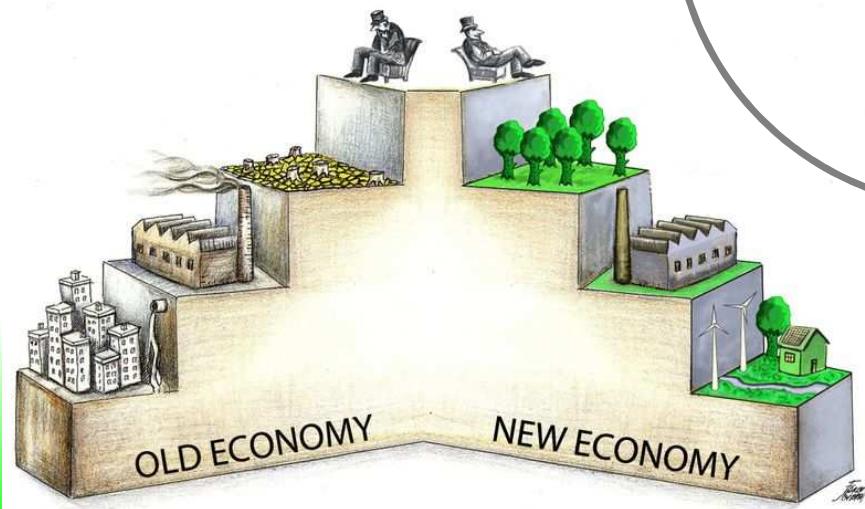
5<sup>th</sup> meeting of the UN High Level Global Sustainability Council in 2011. Among the leaders: Tarja Halonen, president of Finland; Jacob Zuma, president of South Africa

# «New economy»

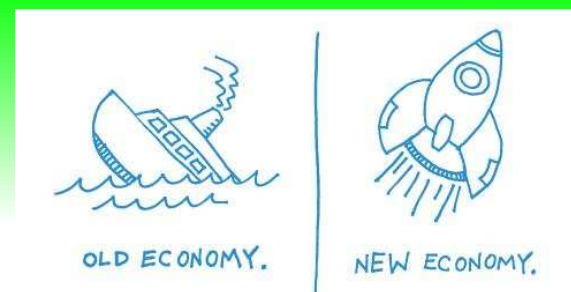
«New economy» is the economic philosophy and theory which is more based on the ideas of “enough” rather than “growth”

It takes into account also existing limitations of the Earth's system, but evaluation of these limits and search for solutions to diminish the limits is less important

Currently thinking in the mode of «New economy» covers enlarging number of supporters, and among the leaders are Nobel Prize laureates in economics, as well as leaders of world's countries



Distinctions between «New economy» and current model of growth can be assessed as follows:



**Wider and more humane objectives** – «Business as usual» is focused on a simple expansion, supported by the belief that growth always guarantees a human progress

«New economy» is focusing on the tangible (taustāms) results – the well-being of the population

**Ethical orientation** – «Business as usual» underestimates (nepietiekami novērtē) the ethical issues of wealth intensity today, despite its implications for the future; it tends to concentrate values not to divide them equally

«New economy» struggle with inequalities not only for today but also for tomorrow, emphasizing intergenerational fairness

**Certain ecological limits** – «Business as usual» often ignores the reality that the ecosystem services and natural resources are limited

«New economy» use these restrictions as beginning around which a new operating system can be created to develop society, employment policy etc.

**More systemic indicators** – «Business as usual» is using simple indicators, mainly emphasizing GDP

«New economy» is using modern measurements in order to get the correct answers to the questions that are truly important for the population, including the assessment of subjective happiness and quality of life

# «Green economy»

«Green economy» is the United Nations' initiative which was introduced and supported essentially within the framework of the UN Environment Program (UNEP)



GREEN economy

«Green stimulation package» supported by the UNEP, in 2008 during the financial crisis, identified certain spheres where large-scale public investment could put «Green economy» in motion





## «Green growth»



Intellectual center «Green growth» is associated with Korea where the Global Green Growth Institute is functioning

«Green growth» reflects ideas of economic philosopher s Nicholas Stern and Jeffrey Sachs

«Green growth» mainly means the approach «from top to bottom» which is driven by governmental initiatives, but it is not yet so important for communities and investors as classical understanding of sustainable development

«Green growth» is criticized for the limited way of «green attitude», and it is opposed by some ecologists and environmental experts

**«Green growth» program of the UN emphasizes sustainable consumption approach** that the main interested party in the development process is the poor – it supports vulnerable communities, providing social services to the poor and creating a favorable environment for sustainable development

# «National happiness»

Concept of «National happiness» was introduced by Jigme Singye Wangchuck, the king of Bhutan in 1972

Later the concept was developed to the survey method adopted for the Bhutanese Research Centre to assess the level of welfare of the population of Bhutan

Now the basics of this concept are sufficiently developed to be able to assess the welfare of the people, the country's development progress and the compliance with the policy-making in countries of different development level



Measuring  
Social Value

Traditions, psychology, health, environmental problems, relationships and modern technologies – these all have the place in the Bhutan's concept of national happiness, but their use is not only theoretical

**Some of indicators of «National happiness» in Bhutan:**

frequency of selfishness sensation	reading and writing skills	household income
family relationships	trust to neighbors	education level
number of persons in a room	purchase of second-hand clothes	frequency of generosity feeling
attendance of community events	help to community members	sufficiency of income for daily needs
trust to public media	knowledge about plants and animals	traditional gaming

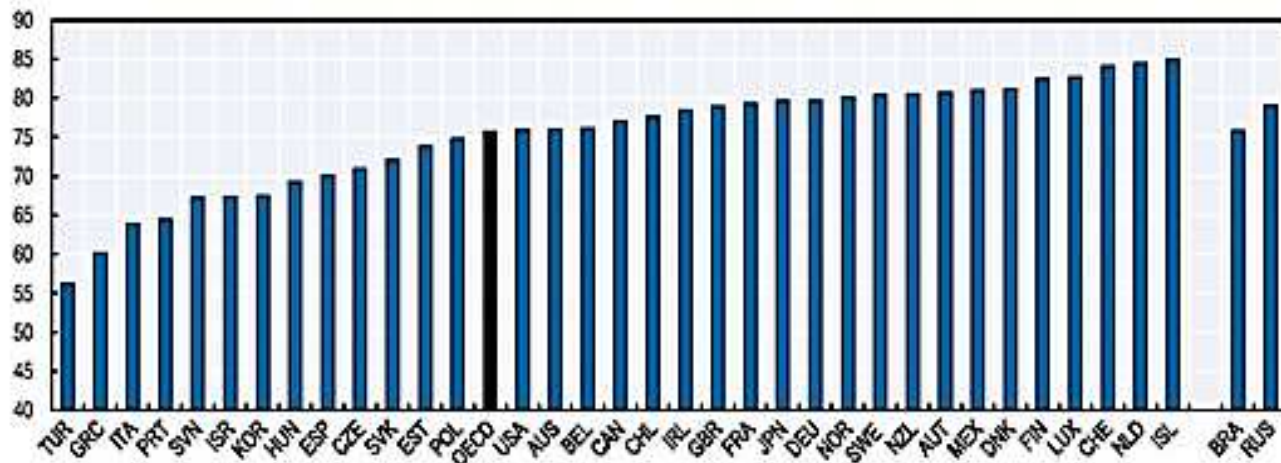
**Unlike other systems and indicators, in Bhutan «National happiness» has a politically significant value**



Each of these initiatives has been adapted to their national contexts and in a special way for each nation's cultural perspective with regard to the happiness and well-being

Direction towards a «fortune» and away from «growth» marks «a change in the results table» with the potential to serve the interests of dominant policy

To offer traditional economic growth is becoming increasingly difficult for developed countries such as France, Germany or Japan, because there are existing aging demographic problems and declining economic power, in contrast to the economic developments in China and India



The results of the OECD study «How's life?» in 2014 – number of people (%), who responded more positively than negatively

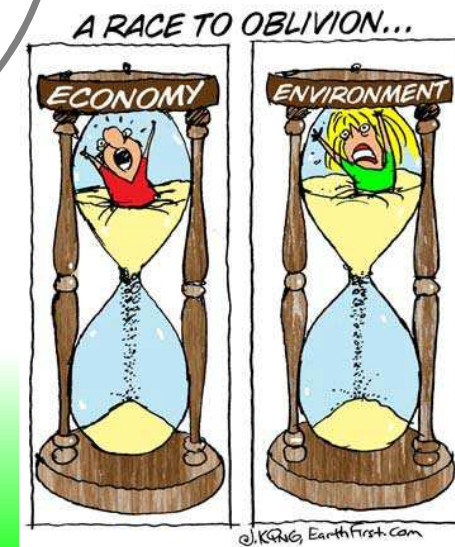
Happiness, well-being and quality of life are not closely linked to economic growth and income, once the country has reached a minimum material economic level of comfort

# «No-growth»

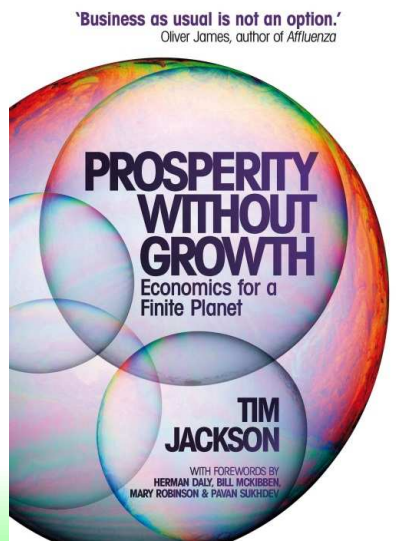
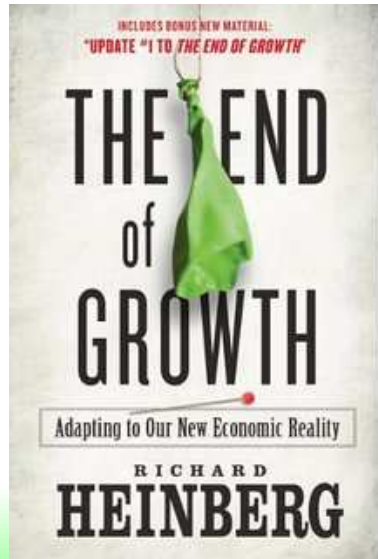
Concept of «No-growth» is the most radical concept in relation to alternatives to replace the economic growth model

«No-growth» means situation opposite to «growth», a run-down

«No-growth» movement is represented by the academic researchers and economic network of activists who promote the idea that the goal is the economics of lower scale which will lead to greater human well-being at the same time reducing the pressure on natural resources and ecosystems



Concept of «No-growth» gained the international attention after the publication  
**«Prosperity without Growth?»**  
written by the economist **Tim Jackson**; afterwards published as a book



Jackson's arguments can be summarized  
in the following summaries:

Growth is not sustainable

«No-growth» is not stable

Decoupling will not operate

## Spectrum of alternatives

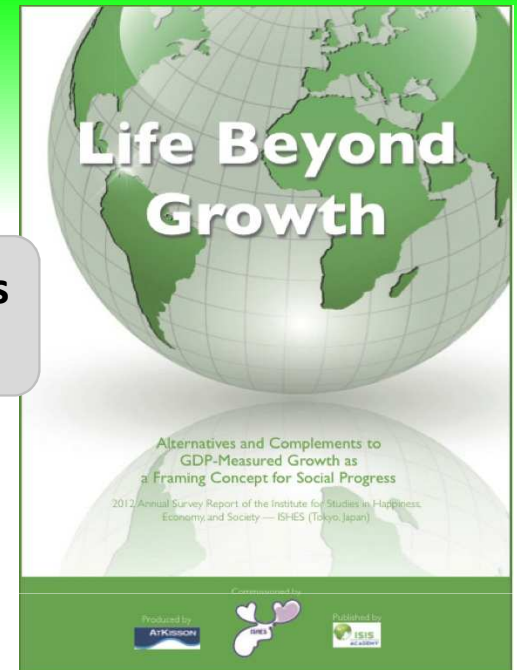
Achievement of broad agreement on alternative models need to be performed at least in four key points:

1. «Business as usual» is not sustainable in long-term

2. GDP is inappropriate or even misleading indicator of progress

3. Alternatives are necessary and possible

4. Happiness and human well-being are essential for any economic setting of goals



### Frameworks

DE-GROWTH

Sustainable Development

Green Economy

Green Growth

GROWTH AS USUAL

Gross national Happiness

Genuine progress indicators

Genuine savings

Green GDP

GDP

### Indicators

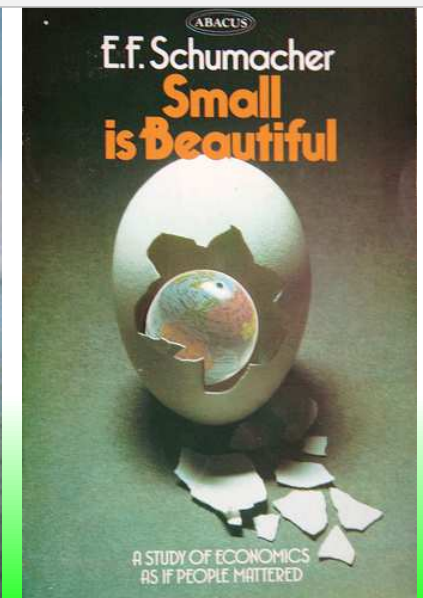
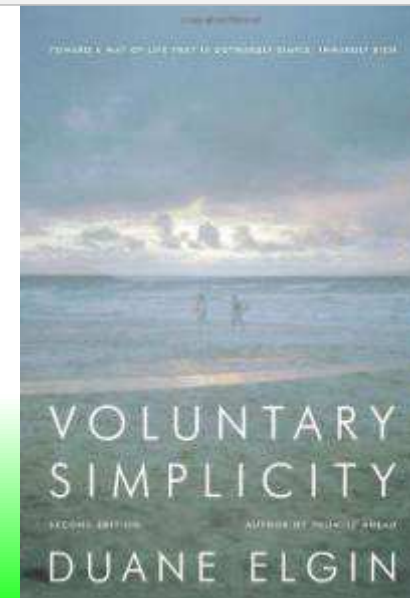
Spectrum and indicators of alternatives for development in different economic systems

# OPTIONS OF SIMPLER LIFE



The idea of a simpler life means to live not increasing the expenses in order to reduce the impact on the environment, but at the same time striving to expand own freedom and a sense of inner peace

The choice in favor of simplicity and resistance to «squirrel wheel» caused even the interest and involvement of magazines and television, in particularly in 1990, when the issue of lifestyle was brought into forward



It simultaneously created a parallel movements of «**Slow Food**» and «**Slow City**» associated with the idea of simplicity and non commercialized action to promote a higher quality of life

The aim of «Slow Food» is promotion of sustainable food and local small business development, as well as political actions against globalization of agricultural production



The concept of «Slow Society» gained recognition among the business leaders in Japan in the beginning of the 21<sup>st</sup> century

The concept of «Slow City» provides:

- Makes life better for everyone who lives in urban areas
- Improves the quality of life in cities
- Resists against urban homogenization and globalization
- Protects the environment
- Promotes cultural diversity in selected cities
- Creates inspiration for a healthier lifestyle

Some people have moved to form new communities and to implement alternative economic and environmental principles – so called «**Eco-Villages**» usually are small-scale settlements, which were established in marginal areas of industrial society (abandoned industrial areas, suburbs or rural areas)



**Inhabitants of eco-villages are united by shared ecological, social, economic, cultural and spiritual values; often there are people who have chosen an alternative power supply, water and sewage system**

**Such optimistic approach offers a hope that we can provide a satisfactory life for all and will be able to avoid mistakes that can happen on the way to a sustainable future**

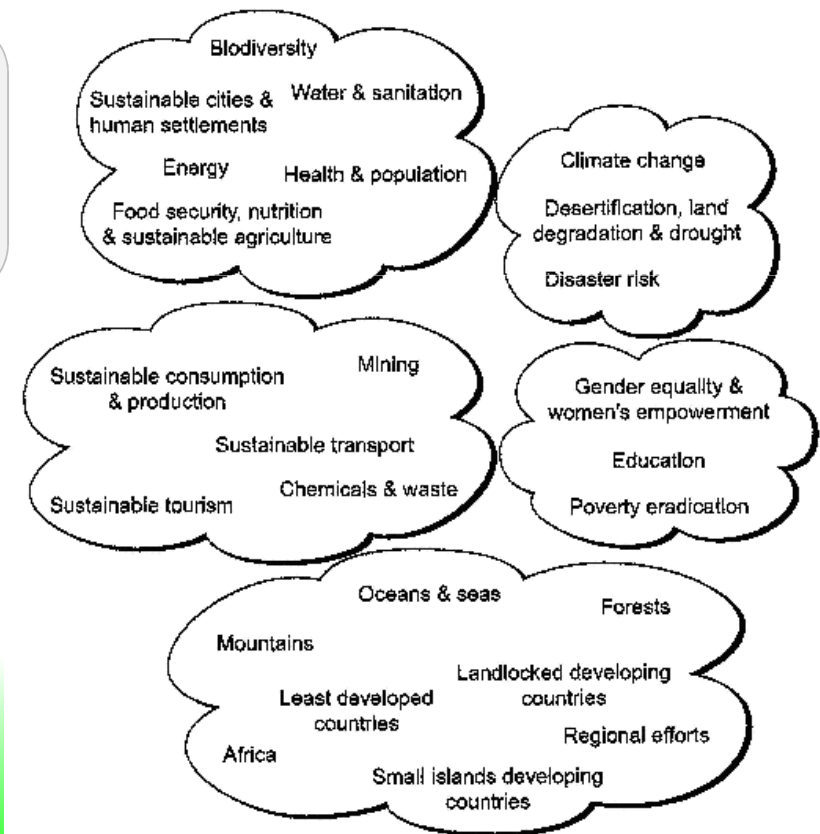


# IMPLEMENTATION OF SUSTAINABLE DEVELOPMENT

**The UN conference «Rio +20» on Sustainable Development** in 2012, in Rio de Janeiro, certainly will serve as a great historical turning point in promoting sustainability

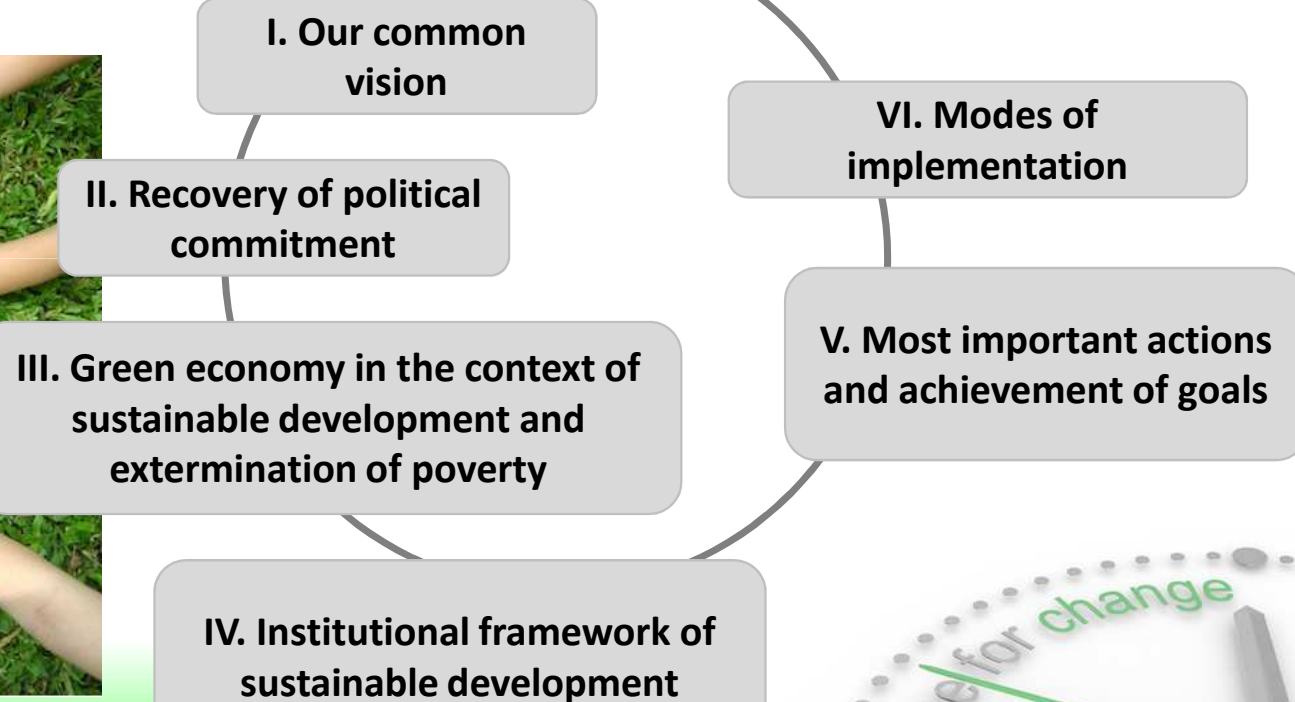
In overall, this event involved about 50,000 people; two main topics of the conference were «Green economy» and «Institutional framework of sustainable development»

Based on the agreements from previous conferences, at the forefront was nominated 7 key areas – unemployment, energy, urban development, food security, water, ocean protection and natural disasters





The main document of the conference «**The Future We Want**» has six chapters



In 2015, the UN General Assembly was held which decided on the implementation of the Millennium Goals and new goals were set «**Transforming Our World: The 2030 Agenda for Sustainable Development**»

1



1. Poverty termination

5



5. Gender equality

2



2. Hunger termination

6



6. Clean water and sanitary conditions

3



3. Good health and prosperity

7



7. Available and clean energy

4



4. Qualitative education

8



8. Adequate work and economic growth

9



**9. Industry, innovations, infrastructure**

10



**10. Reduced inequality**

11



**11. Sustainable cities and communities**

12



**12. Responsible consumption  
and production**

13



**13. Climate change actions**

14



**14. Water life saving**

15



**15. Terrestrial life saving**

16

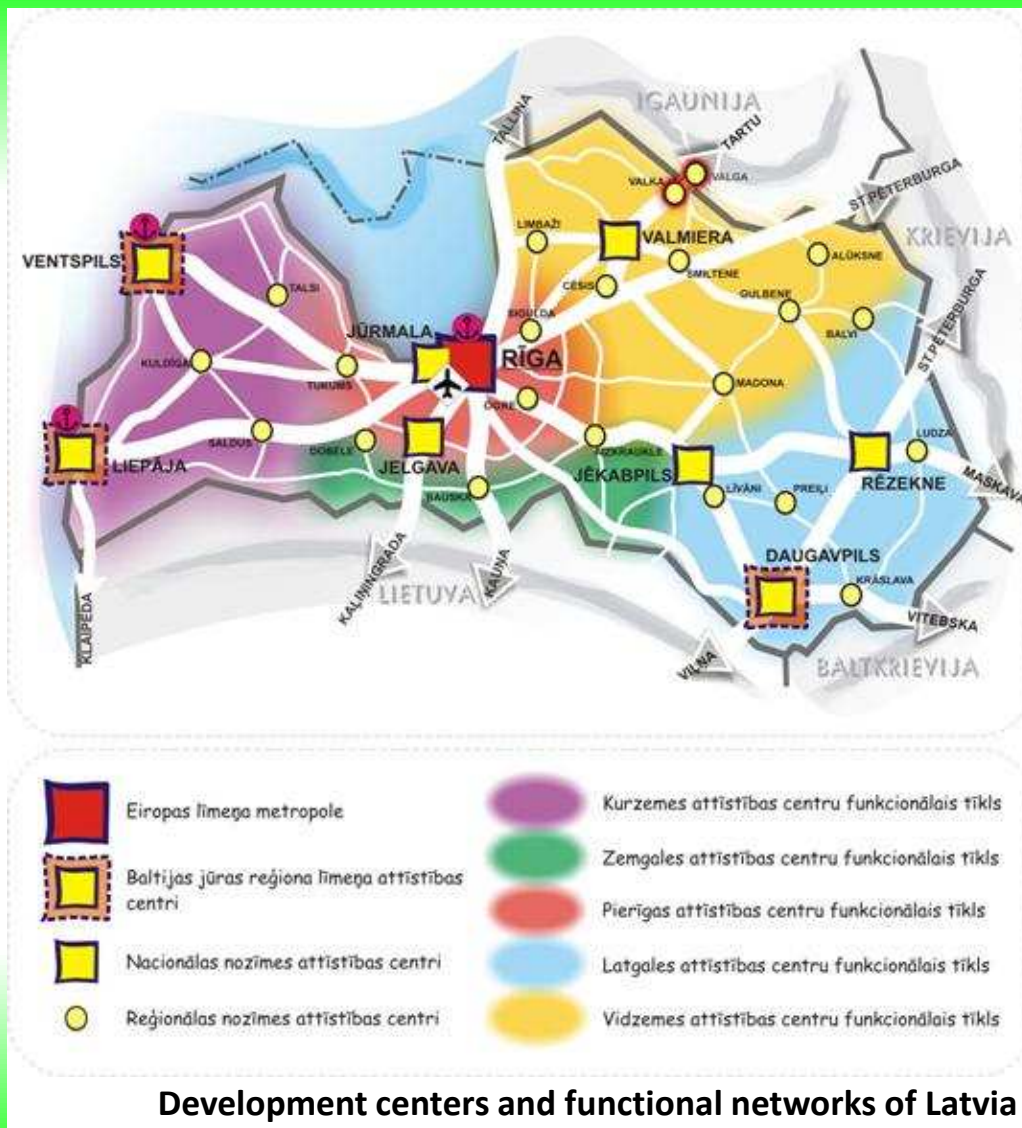


**16. Peace, justice and strong  
institutions**

17



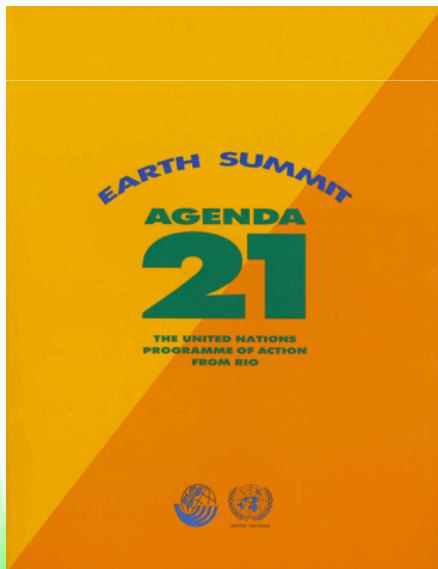
**17. Global cooperation in achieving  
goals of sustainable development**



**Sustainable Development Strategy of Latvia** has been developed and approved by the Saeima (03.06.2010.)

**The basic objectives of the strategy are as follows:** a happy man in a welfare country, sustainable and healthy lifestyle, creative and tolerant society, competitiveness generated by cooperation and the country as a reliable partner

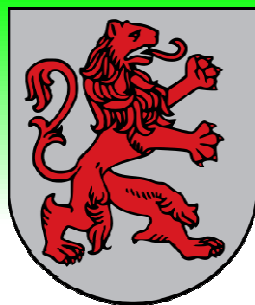
**Local municipality** establishes and maintains economic, social and environmental infrastructure, oversees the process of planning, establishes local environmental policy, as well as supports national environmental policy



Many problems and their solutions mentioned in the UN document «Agenda 21» are rooted in the level of local municipalities, therefore, local development plans should be developed based on the principles of sustainable development

«Agenda 21» aims to involve inhabitants, as well as municipalities and various interest groups representing the society and also enterprises in overall process of development

The first municipalities, that in Latvia have taken an initiative in relation to the local «Agenda 21», were Jurmala and Jelgava, at a later stage they were joined by Talsi, Cesis, Rezekne, Rujiena, Riga, Ventspils, Kuldiga, as well as some parishes





# FUTURE OPPORTUNITIES



The world is changing and we are changing too, but in each period there is something that is more important than another –

**For this we think and talk more; it appears  
also in the terms of development and  
implementation during decades**

**The world needs a new vision that would provide a new sense of community for all countries of the world**

**GREEN ECONOMY + NATIONAL  
HAPPINESS = SUSTAINABLE WORLD**



*Enjoy every  
snowy day -  
in the future  
such might not be!*

*The full end of lectures !!!*

Thank you  
for the attention!

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