

AL-FARABI KAZAKH NATIONAL UNIVERSITY
UNESCO CHAIR FOR SUSTAINABLE DEVELOPMENT

SUSTAINABLE DEVELOPMENT

THE EVOLUTION OF UNDERSTANDING: FROM RIO92 TO SDGs

Lecturer - PhD, Ass. Prof. Tazhibayeva T.L.

Undergraduate disciplines on specialty 5Bo6o8oo-Ecology

Ecology and Sustainable Development, Environmental Safety,

Climate changes and "Green Economy" and etc.

Almaty 2020

sustainable development

- The concept of sustainable development is recognized by the world community as a central strategy for the development of mankind, which is aimed at overcoming the global environmental crisis.
- **Sustainable economic development includes:**
 - - development that does not impose additional costs on future generations;
 - development that minimizes external effects between generations;
 - - development, which provides continuous simple and / or expanded reproduction of production potential in the future;
 - - development in which mankind needs to live only on interest from natural capital, without affecting himself.

The first stage (1950-1960s) of Development

- **The first stage (1950-1960s)** is associated with the awareness of the dangerous impact of the economy on the environment and humans, not only locally, but also globally. This is a period of increasing nuclear threat and discussion of the possible catastrophic consequences of the use of nuclear weapons, the accumulation of data on the negative impact of economic activity on the environment, the emergence of a global environmental awareness and environmental movement. The interconnections between the processes of economic development and environmental degradation are already well understood by countries, however, basically everything is limited to the speech about the need to take into account the interests of nature conservation in the process of economic development.

- **Milestones of this period:**

- • **1955** - reaction to the growth of smog deaths in the cities of the world;
- • **1962** - Rachel Carson's book "Silent Spring" was published, for the first time and having access to language stories about dangerous synthetic pesticides in agriculture (including DDT);
- • **1962** - in the resolution of the UN General Assembly of December 18 (1831 (XVII)) "Economic development and environmental protection" it is recognized that economic development, including industrialization and urbanization, can damage natural resources, flora and fauna (especially in developing countries), therefore, economic development must necessarily be accompanied by the adoption of measures to "preserve, restore, enrich and rational use of natural resources and increase productivity"

second stage (1960-1970s)

- At the **second stage (1960-1970s)**, it is concluded that the overly intensive use of natural resources and pollution caused by economic development undermine the economy itself, destroying its material and resource base and reducing human well-being.
- It also comes to the realization that since the problems of pollution and depletion of resources have become global in nature, the united efforts of the entire world community are needed to solve them. The main idea in this period can be considered that in order to preserve natural resources and a favorable environment for humans, the economy should be rational. With this approach, the key role in preventing dangerous environmental changes is given to scientifically sound planning and centralized environmental regulation of economic development.
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- **Milestones:**

- **1972** - the first report to the Club of Rome is published - the book "Limits of Growth", which presents the results of modeling the exponential growth of the world population, industrialization and pollution, as well as an increase in food production and depletion of natural resources until 2100.

- **1972** - the UN Conference on the Human Environment is held in Stockholm - this is the starting point of the international environmental protection system; Following the conference, the Stockholm Declaration is adopted (26 principles); by the end of the year, the United Nations Environment Program (UNEP) is being created.

The third stage (1980–1990s)

- **The third stage (1980–1990s)** is characterized by the rapid development of “green” technologies in developed countries. During this period, the idea of environmental modernization is being actively promoted. The main premise of this idea is the environmental adaptation of economic growth and industrial development is economically feasible (or even profitable), as it helps to save resources and creates competitive advantages for companies introducing green technologies and manufacturing innovations. This idea quickly took root both in the business community and at the level of governments of industrialized countries, since this approach removes the contradictions between economic and environmental interests within the framework of a market system, arguing that environmental damage can be separated from economic growth through technological development, reducing unit damage per unit of output.
- In the same period, the concept of sustainable development is being formed among experts. **The idea of sustainable development is based on the trinity of economic, environmental and social development goals.**

- **Milestones:**

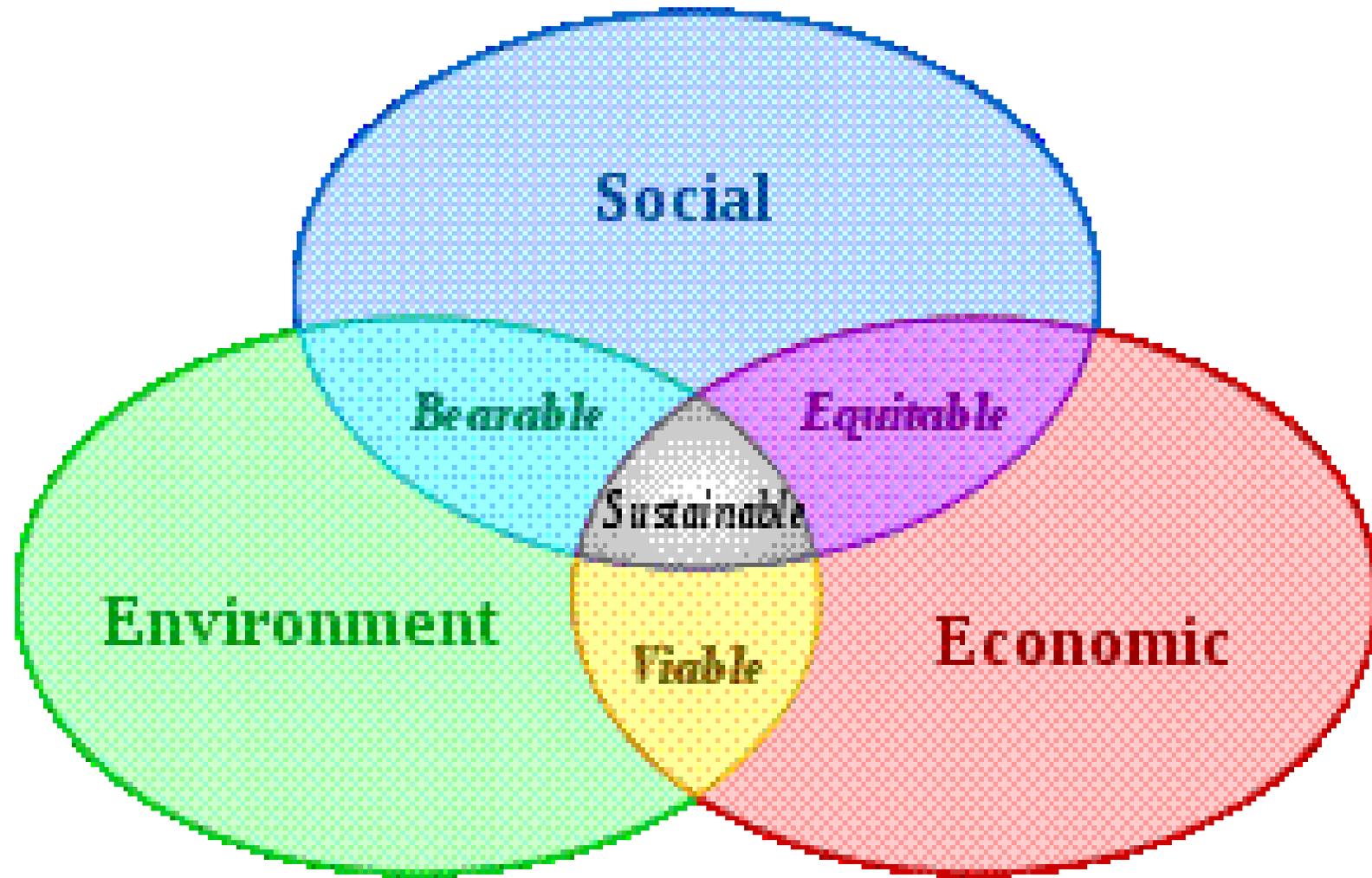
- **1987** - The Report of the International Commission on Environment and Development (Brundtland Commission) was published, which for the first time gives a general definition of sustainable development;
- **1992** - the Conference on Environment and Development (Earth Summit) is held in Rio de Janeiro, at which Agenda 21 is adopted as the main outcome document, and the UN Commission on Sustainable Development is established;
- **1997** - the Kyoto Protocol was signed, one of the first practical mechanisms imposing legal obligations on countries to reduce greenhouse gas emissions compared to 1990 levels and prescribing the creation of an emissions trading system .

Sustainable Development

Гру Харлем Брундтланд, бывшая в то время премьер-министром Норвегии, выступление перед Генеральной Ассамблеей ООН в 1987 году. Взаимосвязь между окружающей средой и человеческим обществом является общей нитью, которая проходит через весь Доклад Комиссии Брундтланд и Оценочный доклад GEO-4. Источник: UN Photo



- **harmonious (uniform, balanced) development.**
- **Harmonious development is a process of changes in which operation of natural resources, the direction of investments, orientation of scientific and technical development, development of the personality and institutional changes are coordinated with each other and strengthen present and future potential for satisfaction of human wants and aspirations.**
- **Sustainable development should provide quality of human life.**
- **It includes three parts: ECONOMY DEVELOPMENT, SOCIAL DEVELOPMENT, ECOLOGY DEVELOPMENT.**
- **UN – the satisfaction of requirements of the present doesn't undermine ability of future generations to satisfy own requirements (International Commission on environmental and development UN, 1987)**



Conference of the UN on environment and development (Rio de Janeiro, June 1992)

- **1 . The declaration proclaiming the basic principles of development of human society on Earth - 27:**
- **5 - human rights, role of women and youth; 3 peacekeeping and peace solution of disputes; 7-sustainable development, 12 policies of the states and the international cooperation in the field of environmental protection.**
- **2 . The AGENDA FOR the XXI CENTURY is accepted.**
- **Sections: social and economic aspects; preservation and rational use of resources for development; strengthening of a role of the main groups of the population; means (tools) of their implementation.**

The fourth period (2000–2010)

- The fourth period (2000–2010) is the consolidation of the concept of sustainable development in international and national legislation, in the business environment, in public discussions and in the media. This period is associated with closer attention to the social component. In the field of ecology, the issue of climate change comes to the fore, as well as its connection with the prospects for economic growth and development.
- **Milestones:**
 - **2000** - the Millennium Summit (New York) was held and the Millennium Development Goals (MDGs) were proclaimed, aimed at reducing the gap in the quality of life of developing countries ;
 - **2002** - the World Summit on Sustainable Development in Johannesburg (“Rio + 10”); as a practical form of interaction for achieving the MDGs, the summit announced the creation of the so-called “partnerships of the second type”, which provide for more active participation of the private sector, non-profit organizations and civil society in decision-making involving the most important development problems;
 - **2006** - a report by Nicholas Stern “The Economics of Climate Change” was published, which showed that the cost of the negative effects of climate change (up to 5% of world GDP in the near future and up to 15–20% by the end of the century) will significantly exceed the costs required for taking urgent measures to reduce greenhouse emissions (about 1% of world GDP) ; the report is causing widespread publicity;

GOALS OF DEVELOPMENT OF THE MILLENNIUM OF THE UN for 2000-2015 (NEW YORK, 2000)

- 1 . Eradication of extreme poverty and hunger
- 2 . Providing universal primary education
- 3 . Assistance to equal and active participation of women in political and social and economic life
- 4 . Reduction of child mortality
- 5 . Improvement of maternal health
- 6 . Fight against HIV/AIDS, tuberculosis and other diseases
- 7 . To provide stability of environment
- Task 9: To introduce the principles of a sustainable development as an integral part of national policy as the terminations of irrational use of natural resources
- Task 10: by 2015 – to lower a share of the population which doesn't have access to drinking water by 50%
- Task 11: by 2020 to provide significant improvement of life of at least 100 million inhabitants of slums
- 8 . Formation of global partnership for development

- **2007** - The Fourth Report of the Intergovernmental Panel on Climate Change (IPCC) is released, stating that the observed climate change is “very likely” (with a probability of more than 90%) due to human activities, primarily due to an increase in anthropogenic greenhouse gas emissions since the beginning of the Industrial Revolution;
- **2008** - the global financial and economic crisis begins, to which many governments respond by adopting economic stimulus packages that provide for a more or less significant “green” component: growth in employment and economic activity through investment in resource and energy efficiency, creation of tax regimes favorable for the development of green sectors, etc .;
- **2009** - The United Nations Environment Program (UNEP) issues a document that for the first time systematically presents ideas for transforming the global economic system in the interests of environmentally sustainable development; This document, entitled “The Global Green New Deal,” identifies common goals and objectives for reforming national economies, as well as international trade systems and global financial markets, in line with the vision of experts from the **UNEP Green Economy Initiative**, one of nine initiatives created by UN in response to the global crisis.

Fifth period (2011- present)

- The largest Sustainable Development Summit in the history of the United Nations, held in **Rio de Janeiro in June 2012, called Rio + 20**, reaffirmed the commitment of most countries of the world to this basic trend of social development, despite varying geographical conditions and cultural traditions. The Summit was attended by about 50 thousand people and more than 100 heads of state and government.

Rio+20 (Rio de Janeiro, 2012)

- The Al-Farabi KazNU organized special section for advance of initiatives of the President of Kazakhstan N.A.Nazarbayev on power ecological strategy of development of the world in XXI centuries and idea realization "**Green Bridge through generations**".
- The rector of university G.M.Mutanov was the head of our delegation. He suggested to organize **the International Consortium of Universities of the World** according to the solution the problems of training of specialists in the field of ecology and a rational use of resources, in particular specialists in an energy& ecology in a framework of "**Green Bridge through generations**".

Themes and objectives RIO+20

The conference RIO+20 had three objectives:

- Securing renewed political commitment for sustainable development
- Assessing the progress and implementation gaps in meeting previous commitments.
- Addressing new and emerging challenges.

The official discussions had two main themes:

- How to build a green economy to achieve sustainable development and lift people out of poverty, including support for developing countries that will allow them to find a green path for development.
- How to improve international coordination for sustainable development by building an institutional framework.

The concept of sustainable development is based on the balance of human activity in the environment, economy and social sphere related to energy

Economy – Ecology – Society – ENERGY

17 Sustainable Development Goals

- 17 Sustainable Development Goals - On September 25, 2015, UN member states adopted the 2030 Agenda for Sustainable Development.



UN Sustainable Development Goals

- UN – 17 DGs for 2030
- <https://www.youtube.com/watch?v=0XTBYMfZyrM&feature=youtu.be>
- Link to app & local issues, contexts...
- **17 goals – 169 tasks**





**#1: End
poverty in all
its forms
everywhere**



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



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



**#4: Ensure
inclusive and
quality
education for
all and promote
lifelong
learning**

**#5: Achieve
gender
equality and
empower
women and
girls**



#6: Ensure access to water and sanitation for all



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





#8: Promote inclusive and sustainable economic growth, employment and decent work for all



#9: Build resilient infrastructure, promote sustainable industrialization and foster innovation

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





**#11: Make cities
inclusive, safe,
resilient and
sustainable**



#12: Ensure sustainable consumption and production patterns

**#13: Take urgent
action to combat
climate change and
its impacts***



A vibrant underwater scene featuring a massive school of small, silvery fish swimming in clear, turquoise water. The fish are densely packed, creating a shimmering, textured effect. In the lower foreground, a colorful coral reef is visible, with various types of coral in shades of green, yellow, and orange. The overall atmosphere is bright and healthy, representing a thriving marine ecosystem.

**#14: Conserve
and sustainably
use the oceans,
seas and marine
resources**

**#15: Sustainably manage
forests, combat desertification,
halt and reverse land
degradation,
halt biodiversity loss**

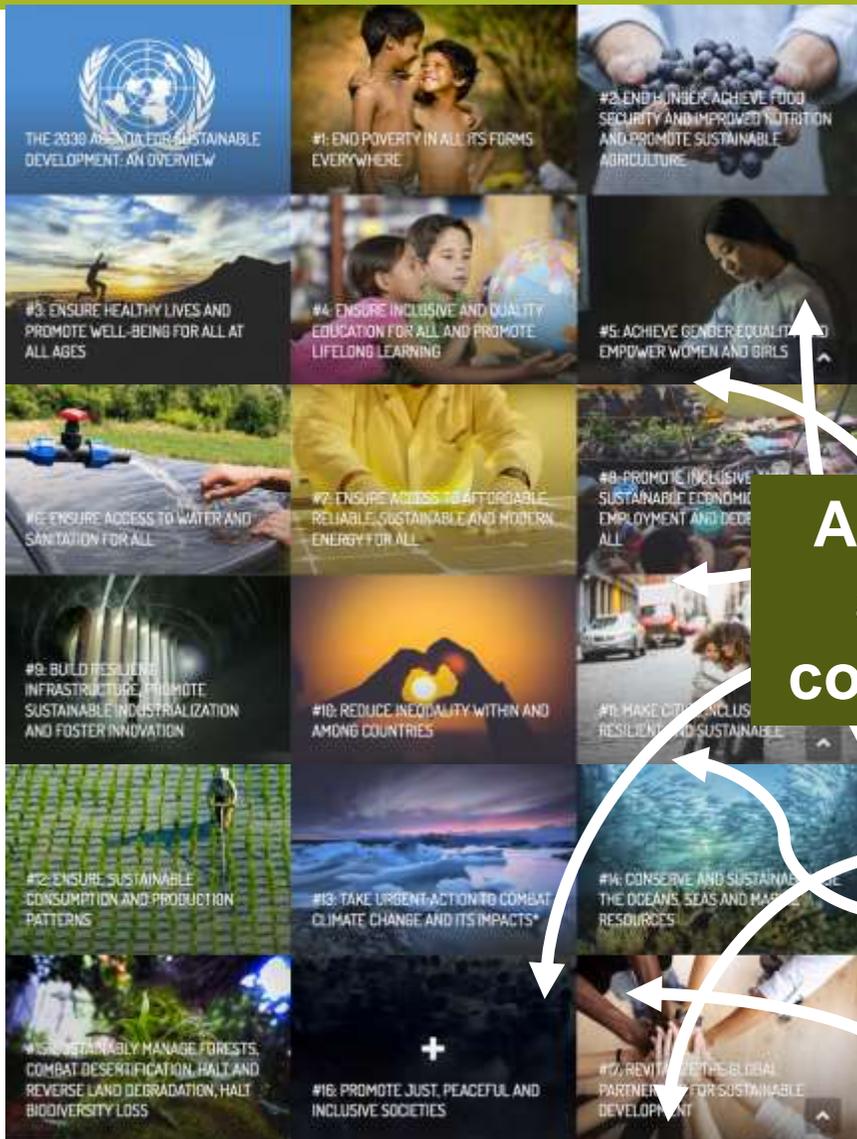




**#16: Promote just, peaceful
and inclusive
societies**



**#17: Revitalize
the global
partnership for
sustainable
development**



7 Environmental challenges in a global context

Environmental challenges in Europe and in the rest of the world are intertwined

There is a two-way relationship between Europe and the rest of the world. Europe is contributing to environmental pressures and accelerating feedbacks in other parts of the world through its dependence on fossil fuels, mining products and other imports. Conversely, in a highly interdependent world, changes in other parts of the world are increasingly felt closer to home, both directly through the impacts of global environmental changes, or indirectly through intensified socio-economic pressures ⁽¹⁾ ⁽²⁾.

An obvious example. Most of the growth in global emissions is projected to occur outside Europe, as a result of increasing wealth in populous emerging economies. In spite of efforts to reduce emissions and a decreasing share in global emissions, European societies continue to be major emitters of greenhouse gases (Chapter 2).

Regions that are most vulnerable to climate change are often in the same continent, others are our direct neighbours ⁽³⁾. Often these countries are highly dependent on climate-sensitive sectors such as farming and fishing. Their adaptive capacity varies, but is often rather low, in particular due to persistent poverty ⁽⁴⁾ ⁽⁵⁾. The links between climate change, poverty and political and security risks and their relevance for Europe have been extensively analysed ⁽⁶⁾ ⁽⁷⁾ ⁽⁸⁾.

Biodiversity has continued to decline globally despite a few encouraging achievements and increased policy action ⁽⁹⁾ ⁽¹⁰⁾. The global rate of species extinction is escalating and is now estimated to be up to 1 000 times the natural rate ⁽¹¹⁾. Evidence is growing that critical ecosystem services are under great pressure globally ⁽¹²⁾. According to one estimate, approximately one quarter of the potential net primary production has been converted by humans, either through direct cropping (53 %), land-use-induced productivity



THANK YOU FOR ATTENTION!