Journal of Education and Culture Studies
ISSN 2573-0401 (Print) ISSN 2573-041X (Online)
Vol. 2, No. 4, 2018
www.scholink.org/ojs/index.php/jecs

Original Paper

Sustainable Development: Myth or Reality?

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Received: October 5, 2018 Accepted: October 20, 2018 Online Published: November 2, 2018

doi:10.22158/jecs.v2n4p303 URL: http://dx.doi.org/10.22158/jecs.v2n4p303

Abstract

The report "Our Common Future" gives a definition of sustainable development.

In principle, the idea of sustainable development is extremely humane and noble, and it has no alternative. But at the same time this idea in the modern world looks very unrealistic. This is more a slogan than a scientific concept. Sustainable development of our planet is a global process, it is an ideal, because our planet is a single balanced geoecological system. However, today theoretically sustainable development can be achieved only in a small number of highly developed post-industrial countries. In developing countries, unfortunately, there can be no question of sustainable development. In other words, at the global level, it is not possible to achieve sustainable development in the near future.

There can be no sustainable development in a single country. But this does not mean that all countries without exception do not need to implement environmental protection activity. On the contrary, it is necessary to carry out such activities everywhere. But this will not be sustainable development, this will be local measures for the rational use of nature. But all these measures are of a local nature, they will not become global, which means that this will not be a sustainable development.

However, the term "sustainable development" has gained wide popularity, is humane in nature, so it may remain, but we should remember that this is just a conditional term, and in fact it is a rational use of nature on a local level.

Examples of sustainable development strategies and projects in a number of countries are given. It is shown that most of these projects are in essence projects on rational nature use in individual regions. The other part which concerns global problems, can be implemented only by developed countries, they also cannot be sustainable development projects.

Keywords

Sustainable development, rational use of nature, industrialization, post-industrialization, index EPI, service, country examples

1. Introduction

In 1972, the UN Conference on the Environment was held in Stockholm. The most important conclusion reached by the Conference is the recognition of the existence of an inseparable link between a safe environment and socio-economic development. The outcome of the Conference was a report prepared in 1987 by the World Commission on Environment and Development, chaired by the former Prime Minister of Norway, Ms. Harlem Brundtland, on the optimal development of humanity "Our Common Future" (Our Common Future, 1987). The report proved the necessity and possibility of sustainable triune development, which unites the environment, social and economic components, as the only real path for the further development of civilization.

The main conclusion of the Commission, as H. Brundtland stated, "the environment is the place of our life, and development is our actions to improve our well-being in it. Both of these concepts are inseparable". And as a consequence, there is a need to achieve sustainable socio-economic development, in which decisions would be taken with full consideration of geoecological factors.

I deliberately emphasize—geoecological, not ecological factors, because these two terms are often confused, but these are completely different things. Ecology is a biological science that studies the interaction of a living being with the physical environment surrounding it, i.e., nature. Geoecology or geographical ecology is a geographic science that studies the interaction of a living being (in this case a human being) with the physical, economic (anthropogenic) and social environments surrounding it (Gorbanyov, 2018).

2. Methodology Frame

The Commission formulated the definition of sustainable development. This "is a development that can provide needs of the present time without compromising the ability of future generations to meet their own needs". It is important to note that this definition is very close to the ideas expressed by the Soviet geographer David Armand back in 1964 in his famous book "To us and the grandchildren" (Armand, 1964) . Even the title of the book echoes the idea of sustainable development. Armand writes: "The moral duty of each generation is to leave the next natural wealth in better condition and in greater quantity than it received from the previous one". It is not difficult to see that this idea of Armand is extremely close to the ideas stated in the report of the Commission: environmental protection "should be considered as part of our moral duty towards other people and future generations". Just an amazing resemblance! But the book of David Armand was published 23 years earlier than the report of the Brundtland Commission. However, Armand did not use the term "sustainable development", instead of it he talked about the rational use of nature.

Thus, sustainable development is the ideology of the balance of interests of generations within the geoecological paradigm, which implies an equitable distribution of limited natural resources. This ideology presupposes a balance of three components: social justice, economic development and high quality of the environment. Harmonizing these components and translating them into the language of specific activities is a huge challenge, as all three elements of sustainable development should be balanced. Based on the concept of sustainable development, the United Nations Conference on Environment and Development in 1992 adopted the Rio Declaration, which includes the basic principles of the global community's behavior in the 21st century. And the conference in New York (2015) concretized the provisions of the Rio Declaration and adopted a Global Sustainable Development Agenda until 2030.

3. Theoretical Base and Discussion

It was mentioned above that David Armand did not speak about sustainable development, but about rational use of nature, which, in our opinion, is much more correct. Many Russian scientists (although not all of them), including myself, are skeptical about the concept of sustainable development. In principle, the idea of sustainable development is absolutely humane and noble, but it is more a slogan than a scientific concept. The idea of sustainable development resembles a horizon or communism, to which one can seek, but never reach.

The conditions and goals of sustainable development are very utopian. Russian geographer Dmitry Lury stressed that the concept of sustainable development should consist of a system of restrictions: limiting the growth of population, limiting the consumption of natural resources, limiting the growth of efficiency in the use of natural resources, limiting the destruction of ecosystems and even limiting freedom and scientific and technological development (Ljuri, 2006). But in the coming decades, mankind will not be able to realize these limitations. Therefore, the most likely scenario for D. Lury will be further destabilization of the situation, which will lead to a global environmental crisis, and the concept of sustainable development will remain a wonderful dream. This crisis is a natural stage in the development of civilization. Therefore, we need to prepare for a controlled crisis, i.e., find the ways to curb this crisis and minimize it.

And one more important point Sustainable development is a global process. It concerns the entire inseparable geoecosystem of our planet. Therefore, sustainable development can be achieved only at a global, planetary level. There can be no sustainable development in any country, or even more so in one or another part of the country.

Why sustainable development can not be achieved at the global level? Sustainable development requires the presence of highly developed technologies, where the share of industry in GDP will be minimal, where minimal consumption of natural resources and energy will be realized and where the sphere of knowledge and services will be developed to the maximum extent. Only highly developed countries correspond to such conditions, which have passed or are passing to the postindustrial phase of

development. Only such a society is able to consciously go to the restrictions set by D.Lurie, and at the same time preserve or even increase their social and economic potential. It is in these countries that sustainable development is theoretically possible. But the population of developed countries, as is known, is about 20%. 80% of the populations are developing countries that are in the industrial or even pre-industrial phase of development. In these countries, there can be no question of sustainable development. In the foreseeable future, the population, consumption of natural resources, energy, degradation of ecosystems will only increase. Therefore, at the global level, sustainable development is impossible in the foreseeable future.

It is quite another matter that in some countries and regions the projects of rational use of nature, which D. Armand spoke about, can be carried out: projects on the rational use of natural resources, on the protection of ecosystems and the environment, on combating desertification, deforestation, hunger, poverty etc. All these projects are of a local level, they can take control of the ecological crisis, or in other words, in their essence, all these projects on "controlled crisis" which D. Lurie spoke about.

Soviet geographer Vsevolod Anuchin most clearly showed the interdependence and unity of nature and society (Anuchin, 1978). He first gave a philosophical and theoretical rationale for the concept of rational nature use emphasizing that rational use of nature is a capacious concept. It includes the problems of the integrated use of natural resources in a given territory. Nature use implies not only the effective involvement of natural resources in the production process, but also their protection, and also often their restoration and transformation. Without understanding the unity of society and nature, rational use of nature is impossible.

The most characteristic feature of modernity is the ecologization of economic development. The economy of the industrial era is aimed at economic growth in the context of increased consumption, and therefore the destruction of the environment and in particular of ecosystems, which are, first of all, the foundation of life, and only in the second and third turn the natural resource.

The approaching era of post-industrialization radically changes the crux of nature use. If earlier it was a question of the state of certain types of natural resources, now humanity is faced with a global geoecological problem, where all components of the environment—natural, technogenic, social—are interwoven into a single knot.

In post-industrial, developed countries in the last 20-30 years, there has been a sharp reduction in the consumption of raw materials. The "knowledge economy" contributes to the mitigation of environmental problems. At the same time, in industrialized countries and, even more so in pre-industrial countries, poverty persists, environmental degradation intensifies, geoecological catastrophes become more frequent. In the EU countries, significant funds are allocated for environmental projects: 4-9% of GDP, in the USA less—about 2.5% of GDP, and this figure is growing. As a result of environmental measures in these countries, it has been possible to reduce the burden on the environment while increasing production volumes. Developed countries that provide more than 80% of world GDP produce about 65% of global wastes and 50% of carbon dioxide emissions.

Although, of course, it should be noted that these countries account for less than 20% of the world's population. According to the estimates of the IMF, the consumption of natural resources in developed countries per unit of finished products is reduced annually by 1.23%. The use of recyclables is expanding: in Germany, agricultural waste, used oils are disposed of 90%, car bodies—by 98%. At the same time, rational use of natural resources is achieved due to geographical shifts in the structure of the economy: energy and material-based industries are being replaced by knowledge-based industries, with the former are increasingly moving to developing countries.

Of course, it should be emphasized objectively that post-industrial functions in developed countries difficult to intertwine with industrial ones, which is typical first of all for medium and small enterprises and companies. The needs of the population in developed countries have by no means diminished, on the contrary, they are growing all the time. Today, one resident of developed countries consumes as much resources as 20 people in developing countries, and energy consumption by one American is equivalent to its consumption by 14 Chinese or 531 Ethiopians. In general, developed countries consume 50% of global energy and 80% of raw materials.

And yet, the intensive economy of post-industrial countries demonstrates flexibility and the ability to reorient to the changing conditions of nature use. As a result of the introduction of resource-saving technologies, they managed to reduce the resource intensity of their GDP by 1.5-2.0 times in 10-20 years.

At the same time, post-socialist and developing countries continue to develop an extensive way of catching-up development, i.e., the volumes of resource consumption at them vary in parallel (or even more rapidly) with the growth of the economy.

As noted above, population growth plays a decisive role in the use of natural resources, leading to increased consumption. For the first time this link was indicated by the Englishman Thomas Malthus, who concluded that population growth will exceed the growth of livelihoods, which will lead to hunger and other negative consequences.

In addition to resource constraints of the world economy growth and, accordingly, the use of natural resources, there are geoecological restrictions, which include negative changes in the quality of the environment. Environmental quality is influenced by such processes as global climate change, biodiversity reduction, deforestation, desertification, soil degradation, marine, fresh water, soil, atmosphere pollution, water scarcity and other negative processes and phenomena.

4. The Results and Recommendations

To study the correlation between sustainable development processes and post-industrialization, we assessed the dependence of the Environmental Performance Index (EPI) and the share of population engaged in services (Figure 1), as well as the dependence of the EPI and GDP per capita in selected countries (Gorbanyov, 2011). The EPI Index was developed jointly by Yale and Columbia Universities. The main goal of the index is to assess the degree of environmental sustainability in individual

countries. This takes into account not the fact how degraded the environment is, but the actions taken to prevent its degradation. Each country is assessed on the basis of 25 criteria collected in 10 groups, which in turn are divided into two parts: ecosystem Vitality and environmental health. In the first part there are 7 groups of criteria, in the second - 3. In this case, the role of each group is estimated as a percentage. So in the part of "ecosystem vitality", the key role—25%—is played by climate change criteria as a result of anthropogenic emissions of gases. In the second part of "environment health", 25% is due to the consequences of the morbidity of the population due to environmental degradation.

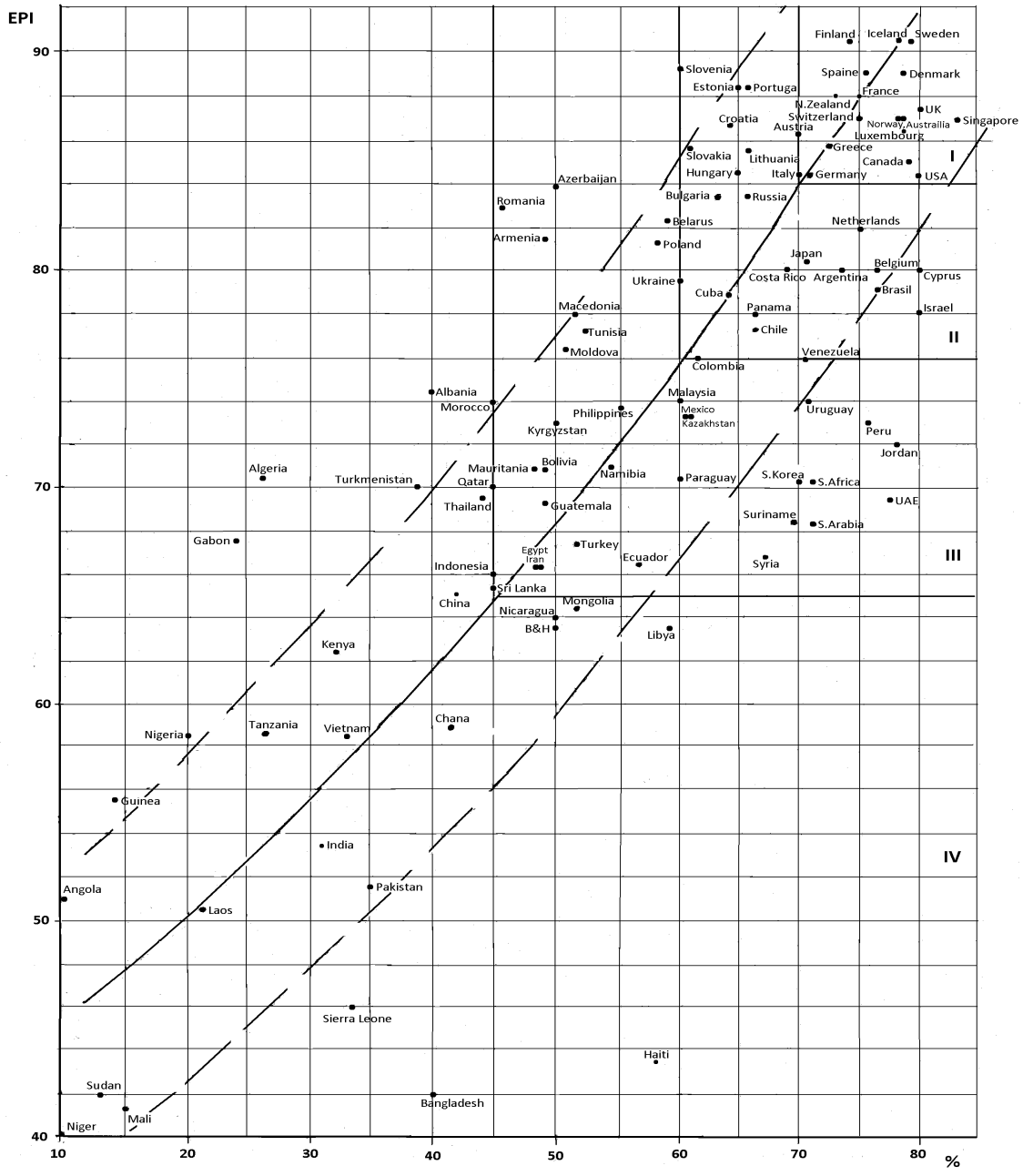

Figure 1. Dependence of the EPI Index on the Proportion of the Population Engaged in the Service Sector in Different Countries

120 countries were considered; those vast majority of countries, with the exception of some least developed countries and small countries in the Caribbean and Oceania. Graphs of the dependence of the EPI index on the share of the population employed in the service sector and on the per capita GDP were constructed. Through the obtained field of points, the averaged curve was drawn, and in parallel to this curve there are additional curves to the left and to the right of it, between which the greatest density of the data scatter is observed—the "main data band". Analyzing the obtained graphs, it is easy to see that this dependence has an exponential character: the larger the proportion of the population engaged in services, the higher the EPI, i.e., with the growth of post-industriality, the measures to prevent environmental degradation are increased. The same trend can be observed on the graph of dependence of the EPI index on GDP per capita: the more economically developed the country is, the greater the measures taken to prevent deterioration of the environment. Four groups of countries can be identified on the graphs of dependence of the index EPI on employment in the service sector and on GDP per capita.

The first group is the leaders of post-industrial development and policy in the field of environmental protection; In these countries the EPI index is more than 80, employment in the service sector is more than 70%, and GDP per capita is over 35 thousand US dollars. This group includes only four countries: Iceland, Switzerland, Sweden and Norway. At the same time, it can be seen that on the graph of the dependence of the EPI index on GDP per capita these countries "fell out" of the main band (except Norway).

The second group is also the countries that now are joining or have already entered the post-industrial phase, where the EPI index is more than 70, the share of employment in the service sector is more than 65% and GDP per capita is more than 20 thousand US dollars, except for the countries of the first group. This group includes France, Austria, Malta, Great Britain, Finland, Germany, Italy, Japan, New Zealand, Spain, Singapore. A special place is occupied by Panama and Belize. In terms of employment in the service sector (67%), they fall into this group, as these countries are very actively involved in ecotourism. However, in terms of GDP per capita, they immediately "fly out" from this group. The reverse situation has developed with Slovakia, Portugal and the Czech Republic: they came into this group due to rather high GDP per capita, however, when using the share of the population engaged in services, these countries leave this group and hardly meet the criteria of post-industrialism.

The third, rather numerous, but compact group includes countries of an industrial type or a catching-up countries, but also includes a number of post-industrial countries. These countries have more than 55 EPI, more than 50% of the population are employed in the services sector, and GDP per capita is more than 5 thousand US dollars, except for the countries of the first and second groups. This group includes all types of countries: developed, developing and transition countries: Russia, Ukraine, Belarus, Bulgaria, Slovenia, Estonia, Latvia, Lithuania, Brazil, Syria, Denmark, Peru, Croatia, Hungary, Portugal, Costa Rica , Cuba, Slovakia, Czech Republic, Malaysia, Greece and other countries. The same group includes Luxembourg, Canada, the Netherlands, Australia, the USA, Israel, Belgium,

which, undoubtedly, have entered the post-industrial phase of development, but they fell out of the "main band", because EPI is not very high (58-68), which indicates insufficient measures taken by states to improve the state of the environment. This factor does not allow these countries to enter the second and even more so in the first group.

Finally, the fourth group includes countries where the EPI index is more than 30, the share of the population employed in the service sector is more than 10% and the GDP per capita is more than $ 500, except for the countries of the first, second and third groups. This includes mainly developing countries that are in the industrial and even pre-industrial phase of development, where care for the environment is minimal, and in some countries is none at all. These are countries such as Romania, Sri Lanka, Thailand, Armenia, Kyrgyzstan, Turkey, Iran, Moldova, Ghana, China, DPRK, Pakistan, India, Sudan, Guinea, Angola, Niger, Kenya and many others. In this group, the range of countries is higher, many countries fall out of the "main band". There are countries where much attention is paid to environmental problems (the EPI index can reach 60-80), but a very small percentage of the population in the service sector is occupied—no more than 50%. These are countries such as Mauritania (EPI-81), Albania, Morocco, Tunisia, Vietnam, Laos. Conversely, there are countries where the EPI index is very small (below 50), but a relatively large number of people (40-65%) are employed in the service sector. These countries include South Africa, Libya, Bolivia, Turkmenistan, Mongolia, UAE (in this country 78% of the population are in the service sector, and the index EPI is only 41).

Comparing the graphs of the dependence of the EPI index on GDP per capita and on the share of the population engaged in services, it can be noted that they show the same trend: the higher the level of the economy in the country and the higher the level of post-industrialization, the more country pays attention to problems Improve the environment. However, as the examples show, in our opinion, however, the graph of the dependence of the EPI index on the share of the population engaged in services more objectively shows the interdependence of the level of post-industrialization and the measures taken by the country to combat environmental degradation.

Let's give some examples. Canada is one of the first countries to embark on the implementation of sustainable development goals on a national basis. In 1995 Canada adopted a Sustainable Development Strategy, in which eight main objectives were identified: 1. Reduce carbon dioxide emissions in order to prevent significant climate change, 2. Minimize threats to air quality so that every citizen can breathe clean air that supports the health of the ecosystem, 3. Increase the availability of drinking water, protect and improve its quality, 4. To maintain the population of animals at a "healthy" level, 5. Maintain the efficiency and ability of ecosystems to heal themselves, 6. To control the level of consumption of resources in order to maintain them within the limits of the ecosystem restoration capacity, 7. Minimize the negative impact of the state on the environment.

The Canadian strategy focuses on the natural component of the concept of sustainable development, since according to the authors, it is nature that is the most important environment for people. However, all of these goals have nothing to do with sustainable development: these are typical examples of

rational nature use in given regions, and examples that deserve the highest praise.

Very interesting is the Canadian Program to manage the territory of the Fraser River Basin—the world's largest river system for the reproduction of salmon. This program, according to its authors, is an excellent experience of a regional approach to the implementation of a sustainable development strategy for a river basin, where more than 2 million people live. The program brings together government agencies at the federal and provincial levels, broad sections of the local population. Similar programs have gained immense popularity in Canada. Hundreds of villages and local communities across Canada are developing similar "sustainable development" plans and strategies. Again, this is a very successful and useful program on regional nature use, but not on sustainable development.

Back in 1993, the President of the United States issued a decree establishing the Presidential Council on Sustainable Development, which is designed to advise the president on all aspects of sustainable development. The Council relied in its activities on the concept of unity of economic development, environmental protection and the achievement of social justice. On this basis, ten goals were formulated for the country's transition to sustainable development:

- health and environment;
- support economic prosperity;
- equality between people;
- protection of natural resources;
- responsible management;
- sustainable communities in order to achieve a healthy society;
- citizen participation in decision making;
- ensuring the stabilization of the population;
- international responsibility;
- equal access to education.

In 2009, the US president signed a decree obliging federal agencies to carry out activities to achieve sustainable development goals: reducing the use of petroleum products by cars by 30%, increasing water use efficiency by 26% by 2020, increasing the degree of waste recycling and reducing them by 50% by 2020. At the regional level, measures were also taken to achieve sustainable development. So in California, the California Alliance for Sustainability was implemented, which brought together various groups of society to solve problems of energy efficiency, the development of renewable energy sources, water use efficiency, waste management and the introduction of the principles of "smart growth". And the state of Oregon announced the desire of the state to become a leader on the path to sustainable development. At the same time, they developed economic, ecological and social measures in this direction.

From the above examples, it is clear that almost all areas for achieving US sustainable development are intra-national, with the exception of the very vague goals of "international responsibility", at that the social component plays a huge role, while the natural (ecological) component goes into the

background.

Although it should be noted that the United States and Canada were the first countries where environmental legislation was introduced to the rank of public policy. At the same time, it is known that President D. Trump spoke out sharply against measures to combat climate change. It's hard to say how Mr. Trump will act on sustainable development.

In the UK, the Sustainable Development Strategy was developed in 1999. The Strategy focuses not on reducing the volume of production, but on increasing the efficiency of the use of natural resources. Priority is given to increasing the efficiency of energy use and waste utilization. Since 1970, energy consumption has practically not changed, although GDP has increased by 80%. As for waste reduction, there are strategic directions such as the reduction of waste production and their recycling.

In 2017, the German Federal Government adopted a new version of the German Sustainable Development Strategy. Each federal agency is called upon to make a reasonable contribution to the achievement of the goals set. Strategy aims to cost-effective, socially balanced and ecologically friendly development. The Sustainable Development Strategy presents the measures envisaged by Germany for the implementation of the 17 sustainable development goals, including the following:

- elimination of poverty and hunger, ensuring gender equality;
- ensuring universal quality education;
- ensuring the availability and rational use of water resources;
- providing access to energy sources;
- promoting progressive and sustainable economic growth;
- ensuring the safety and environmental sustainability of cities;
- taking urgent measures to combat climate change;
- rational use of the seas and oceans;
- protection and restoration of terrestrial ecosystems and their rational use.

The strategy of sustainable development worked out by Germany exactly corresponds to the concept of sustainable development worked out at the international level and, unlike other national concepts, is more global (with a few exceptions) than regional in nature and that is why it looks quite utopian. The concept does not even hint at regional projects.

The Netherlands approved the National Environmental Protection Plan in 1998. The main objective of the Program is to solve the main environmental problems until 2010: climate change, acid rain, eutrophication, soil quality, waste disposal, environmental quality deterioration, depletion of groundwater, depletion of natural resources. In 1988, a series of projects was prepared under the general title "Territorial Planning in Special Territories". The project was aimed at solving problems at the local level: noise pollution, groundwater and land pollution as a result of irrational farming, rational resource use, the city and the environment, etc. All noted projects in the UK and the Netherlands are also inherently measures for rational use of nature.

The Baltic Agenda 21 Program can serve as an example of regional cooperation in Europe in the

implementation of sustainable development goals. The program covers the Baltic Sea region, which includes all Scandinavian countries, Germany, Poland and Russia. As stated in the documents of the Program, the consideration and solution of problems of sustainable development is due to the fact that these countries, cities and the entire population of the Baltic Sea region can achieve sustainable development only if they act in concert and will constantly cooperate regardless of political and economic differences and frontiers.

The content of Agenda 21 includes four main groups: social aspects, rational use of natural resources, strengthening the role of major population groups, means of subsistence.

All noted national strategies and projects are in their essence measures for rational nature use either of a regional or national nature. And projects of a global nature, such as combating climate change or the rational use of the oceans, relate exclusively to developed countries, and the vast majority of developing countries remain aloof from this process; therefore, these projects have nothing to do with sustainable development.

In 1960, Russia adopted the first nature-protection law “On Nature Protection in the Russia”. This law for the first time formulated the main provisions of the concept of rational use of nature. In particular, the idea of the unity of the use and protection of nature, the responsibility of the state and society for the preservation of the natural environment and a number of others consonant with the idea of sustainable development were formulated.

In 1996, the President of Russia issued a decree on the “Concept of the transition of the Russian Federation to sustainable development”, which instructed to develop a strategy for sustainable development of Russia. However, such a strategy has not yet been adopted at the official level. At the same time, there are local strategies for sustainable development, and quite successful. However, I repeat: in essence, these are local strategies of rational use of nature. For example, Nevel district of the Pskov region, which is one of the most underdeveloped regions of Russia. Here the Nevel-21 project was carried out. A special place in the project was occupied by a section devoted to the development of ecological agriculture, industrial fisheries, as well as environmental education and recreation. Later this project turned into a new one—the creation of the “Pskov Center for Sustainable Development of Border Territories with the Republic of Belarus”.

5. Conclusion

Summarizing what has been said, I would like to emphasize: despite the negative sides the concept of sustainable development has the right to exist. Taking into account the support that the concept of sustainable development has received in the world and its enormous educational potential, it seems that there is no point in abandoning it, but one should always keep in mind that in fact it is a matter of rational use of nature in a particular region of the globe. The way to very remote sustainable development lies through local projects of rational use of nature, covering both natural and socio-economic components.

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