

University Name

The Environmental Needs for Change

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## Introduction

The mankind its activity change the natural environment. Today, the STR has led to a massive exchange of matter and energy between the human and the natural environment, which has two sides. On the one hand, there is the extraction of natural materials, and on the other there is a release of different kinds of waste into the environment polluting it and acquiring rampant. One traces depletion of natural resource base of social production. When the state and people realize what dangers they are threatened, they tend to avoid them, although the danger cannot be eliminated. In the 20th century there was a specific system of risks stability and the mankind realized that the modern humanity is destined to live, act and make responsible decisions in this system of risks stability, many of which are associated with negative changes in natural and anthropogenic geosystems. Scientists identify, describe and evaluate all new types of natural and anthropogenic impacts on the geographical landscape and are engaged into an intensive search for ways to quantitatively or qualitatively assess the environmental effects of individual factors. The economy is the main obstacle to preserve the natural environment. The basis of the antagonism between economy and ecology is in the nature of the market, which is beginning to falter when it interferes with all sorts of non-market relations. The economic literature notes the shortcomings in the market take place when society considers some values are more or less desirable than that indicated by market prices.

## The Environmental Needs for Change

There were several reasons for the need to change the views of modern society on the environment, its treatment and the ecology issues resolution in the beginning of the 20th century. The first serious scientific analysis of human physical and geographical impact on the Earth was given by American geographer George Perkins Marsh (1801-1882) in 1864. He considered in detail the geographical implications of the changes made by the human in the plant and animal world, like deforestation, the conversion of the hydrographic network device (dams, draining of wetlands and lakes), drainage and irrigation, consolidation of sand, etc. If the parameters characterizing the natural transformation of the environment maintain their average values over a long period of time, then the changes caused by social or economic activity can lead to rapid and sometimes irreversible processes of change in the geographical envelope. These changes sometimes bear negative character, most commonly associated with errors in the technical and economic policy, with insufficient knowledge of the possible consequences of human impact, underestimation of opportunities for self-reproduction of nature resources and self-control. One may be fully aware of what not to do and what actions of the human will inevitably harm the nature and, nevertheless, make them that happens quite often now. In other words, socio-cultural factors influence the geo-ecological condition of natural and man-made landscapes that characterize the relationship of a human to nature. Their identification and analysis must show harm of 'unbalanced thinking' in environmental issues resolution, according to which the benefits are only counted achieved in some areas without assessing losses in others.

At the civilized stage of the system 'nature – society' evolution improving cultural regulation is one of the most important mechanisms of adaptation that resist the growth of destructive power of new technologies. According to the hypothesis of techno-humanitarian

balance, those civilization subsystems that are not able to respond to man-made crises with development of adequate cultural controls are out of evolution. Those subsystems survived possess better cultural controls.

### Economy vs Ecology in Modern America

Over the next 10 years the air quality can be improved in a number of cities, and at the same time it is very likely it deteriorates in others, especially those where there is a growing population and number of vehicles. Emissions in the United States and Canada of greenhouse gases in 2000 is expected to exceed the level of 1990 and will increase with the growth of energy consumption, as well as the development of road transport. At the same time, supporting the Kyoto Protocol to the Convention on Climate Change, the US government and Canada indicated they intend to seriously tackle the problem of high levels of greenhouse gas emissions on their own territory. The Protocol states that Canada should reduce emissions by 6 percent in the period 2008-2012, and the United States by 7 percent compared with 1990 levels. However, exceeding the 2000 level in 1990, Canada and the United States was not able to run 'setup' of Convention on the return in 2000 to the volume of emissions in 1990. Higher-than-expected economic growth, lower energy prices, slower growth rates in energy efficiency and switching to renewable energy sources contributed to a more rapid increase in greenhouse gas emissions in the US than it seemed before (US Department of Energy 1997).

Any existing system, which rests on the totality of interdependence relations, is an analogue of a living organism. Any third-party intervention in the physiology of the body is equivalent to injury or infectious diseases. Although the market is constantly improving and consistently covers all major areas of human activity, its essence does not change. It has long been noted that the market is indifferent to human problems, it knows neither pity nor enmity, it only recognizes the 'cold calculation' in accordance with their scale of values. At the same

time it is alive and active, it is characterized by the life expansion strategy and, like all biosystems with J-shaped dynamics, it does not worry about the future, thus, the craving for expansion in it outweighs the instinct for self-preservation.

The only force capable of confronting the market is the state that is also a pseudo-education, but more ancient, which already established mechanisms stabilizing negative feedback, to which the craving for life expansion is also not alien. Often the interests of the market and the state are the same, but the state is more sensitive to human destiny, so in relation to the environmental the market and the state are opposed to each other. Yet the state is stronger than the market, so it often deters market pressure. Only due to the state there are treatment facilities reserves, smoke detectors and other completely unnecessary things from the point of view of the market economy. The state, establishing a system of laws for the protection of nature, restrains the expansion of the economy. One may argue about the merits of the state, but in relation to the environment, it is the only force to hope for. Economic problems of environmental management, the introduction of low-waste and non-waste technologies are highly relevant in today's environmental situation. Considering the economic aspects of the environment, one should focus on the problems and limitations of consumer culture.

The economic and environmental crises overcoming in the strategic plan is possible provided that the country will achieve sustainable economic development. This means that the economic development of the country must achieve an overall improvement of people's welfare, improve the environmental security of present and future generations, restoration and preservation of the genetic fund of flora and fauna, and landscape diversity of the territory. Sustainable development is considered only in a closed natural science terms, in

relation to economic activity and economic problems, problems of ecology. This synthetic method provides a basis to address issues of sustainable development.

### The Process of the 20th Century Urbanization in America and its Impact on Ecology

In North America, urbanization was rapid in the early 20<sup>th</sup> century under the combined influence of factors such as population growth, immigration from other regions, as well as migration to the cities in rural areas. Later cars and widespread construction of an extensive network of railways and roads led to the development of suburbanization, when the wealthier segments of the population fled from the overcrowding and pollution of the central areas of cities. By 1970, this type of settlement, based on the use of the car, covered from one-half to two-thirds of the total US population (Greenwood and Edwards, 1979). Large cities have arisen mainly on the east and west coast of the US and Canadian shores of Lake Ontario. In 1980, approximately 76 percent of Canada's population and 74 percent of the US population lived in urban areas (United Nations Population Division, 1997). Over the past 30 years, the growth of the urban population actually has slowed significantly. The UN estimates that the proportion of the urban population in North America in 2000 will be 77 percent. Nevertheless, it is expected that by 2020 the urban population of Canada will increase to 81 percent, and the US - up to 85 percent (United Nations Population Division 1977).

Canada and the United States are one of the richest industrialized urban regions in the world, and that is why they were able to mitigate the most adverse impacts of the population concentration on the environment. Provision of infrastructure and technologies for drinking water, proper sanitation, wastewater, solid and hazardous waste require significant political efforts and major investments. In many urban areas they have managed to achieve stabilization of air quality at the local level, despite the increase in automobile emissions in connection with the dispersal of the urban population and the increased distance road trips

commuters. Nevertheless, the extent of economic growth in North American cities, their dependence on high consumption of energy and other resources exacerbate many of the problems associated with pollution and waste in the region.

North Americans actually produce very large volumes of municipal solid waste in the world. The North America had an average of 620 kg of solid waste per capita annually in the period of 1980-1995 years, while this figure equaled 430 kg in Europe (OECD 1997). In the US, due to the reduction, reuse and recycling of household waste, which is incinerated or disposed of in landfills, its amount gradually decreases. The proportion of recycled waste for the period from 1970 to 1993 tripled having reached 22 percent. However, the reuse performance of products such as glass and paper, remained significantly lower than in most OECD (OECD 1996).

### Conclusions

Sustainable economic growth is expected in the next decades all over the North America, followed by a further increase in resource consumption, at least in per capita terms. However, if the government of the North American countries will follow the commitments made under the Kyoto Protocol, one should make better use of energy and other resources, as well as a large scale transition to the cleaner to reduce emissions of carbon fuels such as natural gas, which contains a smaller percentage of carbon per unit of energy compared with other fuels. North American region is to make a choice that will determine the prospects for the environment: it is necessary to make important decisions that will determine whether economic activities in the region, as well as production and consumption patterns, may become more sustainable. These decisions will affect the environment in the region and the world at large.

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