

## THE GEOGRAPHICAL REGION AND SUSTAINABLE DEVELOPMENT

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**ABSTRACT** - Our paper analyses regional sustainable development. The understanding and the conceptualisation of the region (the natural region, the humanized region, the functional region, and the territorial-system region) have been synchronically adapted to certain development attributes, from the purely economic one to the present-day sustainable development.

The main idea of our paper is that the components of sustainable development (efficient economic development, fair social development, sustainable ecological development – all these against a democratic institutional and political framework) should be implemented in regional geographical entities (the geographical regions) in order to have maximum efficiency. Our conclusion is that *the sustainable development region* should be perceived as an entity where we can find all the characteristics of sustainable development (economic, social, environmental development). Our approach is an incipient one without the pretension that it is definitive and exhaustive.

**Key words:** geographical region, sustainable development

### THE GEOGRAPHICAL REGION AND SUSTAINABLE DEVELOPMENT: THE CONCEPTUAL FRAMEWORK

Ever since ancient times the science of Geography has approached the object of its study (the geographical cover) from two perspectives. The first approach is the thematic study of the geographical cover components (e.g. the relief component, the climate, the hydro-graphical component, etc.) and that has led to the consecration of the branch called General Geography. The second approach is the integrated study of the elements and interrelations from a certain territory (continent, state, etc.) and this led to the appearance of Regional Geography (chorography, *länderkunde*).

Regional Geography studies the geographical region as an entity where the geographical phenomena of the geographical cover are almost exhaustively represented. The geographical region's components should always be analysed by relating them to the whole (the region itself). The geographical region also implies the detailed study of these components, as well as of the relations among them. This approach is absolutely necessary in order to reveal the quality and the functionality of the whole.

We intend to analyse some of *the definitions of the geographical region* in world geographical bibliography, so that we may identify both the evolution and the quality, the content ascribed to this concept. The “geographical region” has been slowly been recognized among the other geographical terms. Its ancient equivalent was the Latin word “pagi” or the Gaelic word “pays.” They meant the territories belonging to different tribes and described with all their natural and anthropic features (Cocean P., 2002, p. 38). The nowadays notion also has a Latin origin. The Latin words “region, regionis” mean “ruling, ordering, governing, etc., the phenomena from a certain space” (Cocean P., 2002, p. 38).

Here are some of the most interesting and objective definitions of the geographical region:

- The geographical region refers, in its widest sense, to an area of a country or a territory, regardless of its scale (Merlin P. and Choay F., 1988).

- The geographical region is a section of a territory with the same physical or human aspects composing a coherent entity with one or several main features, which give it its original character. Thus we can delimitate neighbouring regions (*Grand Larousse Encyclopédique*, 1885).

- The region is a mental construction, which divides the terrestrial surface into territorial units (J.N. Entrikin quoted by Cocean P., 2002, p.39).

- The region is the most complex geographical system. It is a thermo-dynamic and optimally open informational system with a dissipative structure (Ianoș I. quoted by Cocean, P., 2002, p.32).

- The region is a space of centripetal gravitation, an open system with a balanced feedback. It is the basic territorial unit in contemporary economic, social, and political practice (Cocean P., 2002, p.34).

Analysing these definitions and several others that we have not quoted in this paper, we have drawn the conclusion that *the geographical region has been and still is interpreted in two different ways*. Some scientists consider it *an actual, factual reality*, easy to identify in the field. Others consider it to be *a mental construction* whose main purpose is the division of the terrestrial surface into units with different sizes and degrees of importance (Cocean P., 2002, p.38-47). These definitions have evolved synchronically with the evolution of the concept: from the region delimited only according to the geographical-physical criteria and to the definition of the region as a system or as a programmed-system.

As to the notion of *sustainable development*, which is our second study object, there have been many debates. Some of them have even ended up by giving new definitions to *sustainable development*. Analysing them, we have reached the conclusion that *sustainable development is that type of development which responds to the present economic, financial, ecological needs, and to the states' needs of political stability, etc. without compromising the future generations' chances of meeting their own needs* (according to the *Brundtland Report*, 1987).

The main idea of our paper is that the components of sustainable development (efficient economic development, fair social development, sustainable ecological development, all of these against a democratic institutional and political framework) should be implemented in the regional geographical entities (the geographical region) in order to have maximum efficiency. Our claim is that their implementation in inferior local level entities will not result in efficiency. In that case spatial dimensions are insignificant and the heterogeneity resulting from the association of these local spaces will be great. On the other hand, trying to impose sustainable development at continental or global level will lead to the “dilution” of its content because control over the quality of the implementation process will be low. Implementing sustainable development at the geographical regional level could avoid the above-mentioned negative features. Moreover, our approach aims at improving the concept of *sustainable development geographical region* (see also the concept of ‘integrated sustainable development’ as it appeared in *China’s Agenda 21*, as quoted by Chan and Ma, p.21)

## THE QUALITATIVE EVOLUTION OF THE CONCEPTS OF ‘GEOGRAPHICAL REGION’ AND ‘SUSTAINABLE DEVELOPMENT’

These two concepts have had a continuous qualitative evolution from the incipient approaches up to the contemporary approaches where the meaning of each of these two terms becomes complex and profound. The appearance of the two concepts in scientific arguments and, later on, in the geographical bibliography has not coincided. The geographical region is a much older concept. Therefore, their evolution up to the present forms will be analysed separately.

According to *the evolutionary criterion*, the following types of geographical regions have been identified: the natural region, the humanised region, the territorial system region, and the programmed-system region.

*The natural region* is a concept that appeared in antiquity, but which developed between 1750-1900 in the French school of Geography. The main geographical paradigm was Determinism. The natural region was defined as a “homogenous space, generating an organising homogeneity” (Vallega A., 1995). Several concepts complementary to the natural region were the hydrographical basin, the physical support, and the physical environment (Pendea F., 2003, pp. 42-49). Among the researchers who analysed this type of region in remarkable studies were Ph. Buache (1752), L. Gallois (1908), P. Claval (1993), A. Vallega (1995), and P. Cocean (2002).

*The humanised region* was used between 1900-1950 also in the French school of Geography. The cultural frame of that time was Neo-idealism. Possibilism was the dominant geographical paradigm. This type of region was defined as “the space of a human community’s whose lifestyle interacted with one or several physical layers and generated a geographical organism” (Vallega, 1995). Several complementary concepts were the landscape and the lifestyle (Pendea F., 2003, pp.51-54). Some of the most important scientific

contributions, in this respect, belong to: Paul Vidal de la Blache (1908, 1911), M. Sorre (1948, 1961), P. Claval (1993), A. Vallega (1995), and P. Cocean (2002) etc.

*The territorial system region* has stood out from the beginning of the 1970s up to the present day. The concept has been highly used in the French, the Italian, and the Jewish schools of Geography. The dominant paradigm has been systemic geography against the cultural framework of Behaviourism (Pendea F., 2003, p.). P. Cocean's definition of this type of region (2003, p.21) stands out among the others. The territorial system region is "a territory with a sum of natural and anthropic elements (including the spiritual and the mental ones), hierarchically disposed, and associated in the structural aggregates of a systemic style [...] where the quality, the quantity, and the type of the input and output directly influence the state and the dynamics of that system." The complementary concepts are: environment, fluxes, and organization. Among the most important studies analysing this type of region are those by: L. von Bertalanffy (1968, where the problems of the systems are pointed out), J.L. Le Moigne (1984), D. Nir (1990), and A. Vallega (1995).

*The programmed-system region* is a less known concept as compared to the above-mentioned ones. It has only been introduced since 2003 by R. Cocean and P. Cocean who used the North-West Region of Romania as their case study. The main feature of this regional type is that its "dysfunctions, thresholds, centrifugal mass motion, energy, and interests [...] should be kept under control or annihilated (p.21)." A programmed-system region also unites the political and the systemic features of the geographical region harmoniously. This is necessary in order to promote the sustainable development of the region's components themselves. The programmed-system region is a systemic territorial entity oriented by the decision-making factors on a certain development path that will meet the needs of the respective regional community. Thus, the region loses some of its attributes while gaining others implemented by the people and for the people.

The descriptive character is essential for the first two regional types (the natural region and the humanised one). The focus of the regional type (the system region) is on the interrelations between these components. The existence, even if only conceptual, of the fourth type (the programmed-system region), whose focus is on the decision-making factors' involvement in the process of regional delimitation, starts from getting acquainted with the interrelations extant on a certain territory. All these legitimate our approach, i.e. the necessity of a *fifth type of region (the sustainable development region)* in order to take into account the physical support on which the future generations will be able to rely.

As far as *the concept of 'sustainable development'* is concerned, we mention that this is much more recent than the "geographical region." When it was first debated upon, people longed for a certain social cohesion and harmony, but later on, little by little, the concept lost what it had been its initial desideratum because of the different ways of understanding "sustainable development": from environmental modernisation to sustainable economic increase.

The first ideas hinting at sustainability had appeared in Antiquity. Greek philosophers made several correlations between human activities and the natural ecosystems. In 1951 the first report on the environment was published. This report was the reconciliation between economy and ecology and was published by the International Union for the Conservation of Nature (IUCN). In the 1960's scientists insisted on the impact of economic activities upon environmental degradation. At the beginning of the 1970's the Club of Rome denounced the danger of exponential (economic and demographic) growth resulting in the rapid depletion of resources, pollution, and the overexploitation of natural systems.

In 1972, the UNO Conference in Stockholm introduced a model of economic development that was compatible with social equity and ecological prudence. At that moment, Ignacy Sachs suggested the concept of "*eco-development*" as a result of the relations between human development and the quality of the environment. Also in the 1980's, scientists drew attention to the dangerous effect of excessive pollution upon the deterioration of the ozone layer. They wanted to make people aware of these problems.

In 1987 the *Brundtland Report* (also known as "Our Common Future" in *On the Concept of Sustainable Development*, p.15) was published. It is here that the concept of "*sustainable development*" was defined, for the first time, as: "the development that meets the needs of the present without compromising the future generations' chances to meet their own needs" (quoted by Chan and Ma, p.16). In 1993, the World Conference of Human Rights took place in Vienna. Participants insisted on people's rights to a healthy environment, as well as on their right to develop. In 1995, at the Conference in Copenhagen *when the four directions of sustainable development* (the social, cultural, economic, and environmental directions) were defined, the idea developed qualitatively. There were several other important meetings where these matters were discussed: Cairo (1994) – "sustainable development aims at meeting the individual's needs," its

social component is “the most important;” Beijing (1995); Istanbul (1996) – sustainable development and the viability of the human settlements; Rome (1960) – sustainable development and avoiding famine; New York (1997, 2000); Johannesburg (2002) – sustainable development supposes the long term consideration of efficient economic development, fair social development, and sustainable environment. Participants also discussed the necessity that the bodies that can and have to implement this concept must cooperate. This desideratum needs a governmental framework ensuring a participative form of democracy.

### THE ATTRIBUTES OF THE SUSTAINABLE DEVELOPMENT REGION

The geographical region and sustainable development – two fundamental concepts, often used in geographical bibliography – bring to public attention the same idea: encouraging harmonious relations between man and nature and between present and future generations.

Our wish to support *the consolidation of the sustainable development region* comes from the most recent ideas both in Regional Geography and in sustainable development. It is obvious that the four major components of sustainable development (the social-demographical, the cultural, the economic, and the environmental component) are most likely to be implemented at a regional level. Among all the regional types, the programmed-system region can best contain and develop the sustainable development attributes. The strongest points of this regional type are the systemic understanding of territorial reality (interrelations are their most important aspect) and their institutional support. Institutions with an official administrative function decided the existence of these regions.

In our opinion, integrating these four components of sustainable development into the programmed-system region is meant to favour *an integrative regional type, which should be the sustainable development region*. Such a region must rely both on geographical-physical and geographical-human characteristics. The geographical-physical features are: the substrate, the resources, the favourable climatic characteristics, qualitatively and quantitatively valuable water resources; diverse vegetation, forests; tourist potential, etc. The geographical-human features are: the nature of the population (positive attitudes and civic responsibility), positive demographic indicators, knowledge and capacity to capitalise any resource at a superior level, high technological level, ecological equipment, etc. Each of these features must exist in such a region and their rigorous and sustainable management must contribute decisively to the “perpetual health” of the respective regional system.

Firstly, a sustainable development region needs favourable social-demographical characteristics. It is *the social-demographical component that* decisively influences the viability of a region. This component means: high standards of living for each citizen; a population as educated as possible; regional community participation in the decision-making process; the absence of poverty; equal opportunities for men and women; efficient and responsible demographical behaviour (demographical growth within acceptable limits); very low infantile death rate, etc. The existence of all these regional attributes is the result of a healthy mentality, which appears after a long period of time in the context of a democratic political and administrative system.

Our view upon the coordinates and the role of the social-demographical component in each sustainable development region may seem a utopia. Nevertheless, there are some countries that focus heavily on the population’s nature (e.g. the countries in Northern and Western Europe, the USA, Canada, Switzerland, Japan) and where the social security system for senior citizens, for the disabled, or for institutionalised children, etc. is very efficient. This makes the society aware and responsible so that the population of the respective states observes the above-mentioned social-demographical coordinates rigorously. It is obvious that if we take into account only the social-demographical features in order to identify a sustainable development region, it is in these countries that we must look for this type of region.

*Economic* elements also contribute positively and decisively to such a sustainable development region. In order to have sustainable development the respective region must be economically developed. From this perspective we have identified two patterns. According to one pattern, regions have developed very fast. They have reached superior development levels, but the future is not bright (e.g. regions and states that have exploited and processed exhaustible subsoil resources, such as oil, natural gas, coal, ore, etc.). Now they have problems in their economic reorientation and restructuring as those resources are almost exhausted.

The second pattern refers to regions that have reasonably exploited their exhaustible resources and also focused heavily on technological development with a view to processing non-exhaustible resources, almost

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exclusively with no pollution risk (solar energy, Aeolian energy, hydro energy, wave and tidal energy, the capitalisation of the tourist potential). It is obvious that the future belongs to the latter.

*The economic elements* able to support the sustainable regional development are: the capitalisation of the tourist potential (in our opinion, the most important economic factor); the preference for unconventional energy sources (the non-exhaustible ones); high income for each inhabitant; the modern technical infrastructure, non-polluting means of transportation; the general use of ecological industrial equipment; efficient agriculture (preference for the ecological branches of agriculture), etc.

Some of these attributes are also to be also found in the countries with sustainable social-demographical features. Other sustainable economic features are likely to appear in developed countries (e.g. Japan; the USA; Switzerland). Of course, highly specialised industries (hi-tech), such as electronics, telecommunication, etc. should also exist in a sustainable development region.

*Cultural elements* give personality to a sustainable region. Ethnographical values, identical beliefs, education, adaptability give more viability to the respective region. The regional presence of one homogenous community or of two or several complementary communities is necessary in order to individualise the region. The absence of conflicts (the man–environment conflict; ethnic or religious conflicts, work conflicts, military conflicts, etc.) is the result of culture and education. There are extremely well developed regions (e.g. Israel, South Korea, the USA, several states in the Persian Gulf), but they cannot be identified as sustainable development regions because of the risks caused by conflicting cultural elements. Ideological harmony, democracy, peace, all these are features without which one cannot discuss sustainable development.

Finally, *the environmental characteristics* complete the identity of a sustainable development region. Man, through his economic activity and his economic policy, has done great harm to the environment, so that the future human communities are deprived of the right to have a clean and healthy.

Therefore, a sustainable development region has to be characterised by the above-mentioned elements and others that belong to the internal reality of the respective territory. The ideal situation would be that the sustainable development features characterise each regional element and their interrelations. But such a situation does not exist nowadays. It is necessary to know the regional systemic reality and to involve the decision-making factors in improving/favouring these features. On one hand, this is the only premise to consolidate sustainable development regions (conceptually and as territorial reality). On the other hand, this is the only chance to renew the energy that will allow the future human communities to meet their diverse needs.

## WORLD POSSIBLE SUSTAINABLE DEVELOPMENT REGIONS

If we rigorously take into account the above-mentioned features of a sustainable development region, we shall realise that no region completely corresponds to such a pattern. If there are several regions that meet some of the conditions for the appearance of a sustainable development region, they are few and only partially legitimated by the sustainable reality of the territory where they are situated.

In our opinion, the world's areas most likely to become sustainable development regions are in countries *relying on tourism for their economic development* (tourism has low “chances” to be ever exhausted), *on complementary inexhaustible energy sources, internal political stability* (democratic forms of government), *regional geopolitical stability, the complete development of the human component* (generalised literacy; long life expectancy at birth; a significant GDP – per capita; very low emigration rates; very low infant death rate; harmonious age structure of the population). To all these, we add *the absence of any conflict* and the presence of viable *environmental programmes*.

The existence of all these features in a country or a region makes them a potential sustainable development region. From the point of view of these indicators, we have identified several world *qualitative differentiations*.

*The tourist component* is an essential factor in delimitating sustainable development regions. From this point of view, there are two patterns. There are regions or countries that have developed exclusively on tourism and are most likely to be considered sustainable development regions: Andorra, San Marino, Monaco, the Vatican, the Caribbean states, etc.). The vitality of tourism brings great income to the local

populations without exhausting any resource. Then, there are countries which developed mainly on other resources, but which have recently developed several exceptional tourist regions (Japan – Mount Fuji, Ryurky Archipelagos; Switzerland; Australia – Uluru and the Great Dividing Range; Sweden; Finland; Norway; Denmark; France; Germany; the USA – California and the national parks etc.). In these cases, it is only these very developed tourist regions that can be defined as sustainable development regions, and not the entire country.

The analysis of the world's tourist regions shows that they are very interested in environmental protection, they rely a lot on unconventional and "green" energy sources, which is also a characteristic of the region's sustainability. Also, these tourist regions have appeared in countries where both natural and anthropic risk is low, where the ideology of the government has significant modern demographic connotations.

*The primacy of the anthropic component* is another feature of a sustainable development region. From the point of view of the *literacy rate (%) (1980-2003 CIA estimates)* the first countries are: Andorra (where the entire population over 15 can read and write); Australia (idem); the Czech Republic (99,9 %); Denmark (100 %); Finland (100 %); France (99 %); Germany (99 %); Vatican (100 %); Iceland (99,9 %); Japan (99 %); Lithuania (99,8 %); Liechtenstein (100 %); Luxemburg (100 %); Monaco (99 %); Netherlands (99 %); New Zealand (99 %); Norway (100 %); Poland (99,8 %); Russia (99,6 %); Slovenia (99,7 %); Sweden (99 %); Ukraine (99,7 %). Of course, we have established an inferior limit of this indicator in order to define the sustainable development feature of these countries, but this is an extremely high one. It is clear that the best resource of a country, of a region, is its population. Therefore, all the population must be able to benefit from education.

*Life expectancy at birth (years) (2004 CIA estimates)* is another indicator of sustainable development. The highest values are characteristic of the best-developed states from the economic and environmental point of view. This is the most complex indicator relevant for the peoples' standards of living: Andorra (83,5 years), Macao (82,03 years); San Marino (81,53 years); Singapore (81,53 years); Hong Kong (81,39 years); Japan (81,04 years); Switzerland (80,31 years); Sweden (80,3 years); Australia (80,26 years); Iceland (80,18 years) etc. The *infant death rate (2004 CIA estimates)* is in another essential feature of sustainable development when it is very low. Values lower than 4 deaths/1,000 live births exist in the following countries: Singapore (2,28); Sweden (2,77); Hong Kong (2,97); Japan (3,28); Iceland (3,31); Finland (3,59); Norway (3,73); Malta (3,94); the Czech Republic (3,97).

*The GDP-per capita (2003 CIA estimates)* is an indicator relevant for wealth level. The following countries have an annual GDP of over 29,000 \$/capita: Luxembourg (55,100); Norway (37,800); the USA; the Bermudas; the Cayman Islands; San Marino; Switzerland; Denmark; Iceland; Austria; Canada; Ireland; Belgium; Australia.

In 2005 Ireland is estimated to be on the first place for the quality of its population's standards of living. The first 10 countries from this point of view are: Switzerland; Norway; Luxemburg; Sweden, Australia, Iceland, Italy, Denmark, and Spain. In the same hierarchy, places 11 to 20 belong to: Singapore, Finland, the USA, Canada, New Zealand, Holland, Japan, Hong Kong, Portugal, and Austria (*The World in 2005, the version in Romanian, p.37*).

Of course, there are also several other indicators that should be taken into account when one defines a sustainable development region, but in this paper, we only want to open this discussion. Our approach is only incipient, neither does it pretend to be definitive or exhaustive.

We may conclude that there are regions that have many of the features of a sustainable development region (but there is none to have them all). These regions should be identified in the northern countries of Europe (Sweden; Iceland; Norway; Finland; Denmark); in Switzerland; Germany; Andorra; Vatican; in the countries of Eastern and South-eastern Asia (Japan; Singapore; Hong Kong, special region of China); in North America (Canada, the USA); the Caribbean; Australia; New Zealand.

The increasing importance of sustainable development makes us hope that more regions will achieve this feature.

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