RISK REGION. POINTS OF VIEW

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ABSTRACT.- Risk region. Points of view. The paper deals with three fundamental issues related to natural risks. The first issue concerns the definition and characteristics of the risk region. The second issue talks about identification of criteria that underly risk regions demarcation and ranking. The analyze of European risk regions exposed to major natural risks and the frequency identification of natural risks affecting major regions of Romania are the topics addressed in the last part of the paper.

Key- words: risk region, definition, criterion, demarcation, rank

1. INTRODUCTION

The knowledge of risk's spatial attributes is an essential condition in the management of extraordinary phenomena. This activity is a fundamental link in the functioning of society at risk.

The territorial analysis of natural dangerousness and its effects on human society shows that on the earth's surface is possible the delineation of spatial units that share similar traits to a particular natural episode of extraordinary ranking.

Risk region involves a ranking, with a social vision of the elements in the physical environment causing a disruption more or less incidental human activity in an area. Under specific conditions, latent risk of a space can turn into an element with geographical significance in analyzing a certain territory.

There are areas of risk at different scales, in which the key element of their territorial analysis is the frequent occurrence of natural hazards that disrupt the normal development of society in the respective territories. There are other areas where the risk is one of the most highlighted geographical aspects, but where the economic level contributes to restore the previous situation before the occurrence of an extreme natural event. In this regard, Ayala and Cantos (2002) talk about: Mediterranean Europe, Central Plains of the United States, California, Japan and Australia.

Characterization of a territory from the point of view of the natural risk adapts to different scales of measurement for regional analysis.

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Risk region is a working unit with a guiding principle (risk) to which converge the remaining elements that confer identity of a geographic area.

The interest for characterizing the specific natural hazards of a geographical area increased much lately because knowing the socio-economic and environmental dynamics of a territory requires integrating natural hazards into territorial analyzes. This kind of treatment has been applied in a number of works from regional geography, which highlights the importance of natural hazards as significant part in different regions of the world (Ayala, Cantos, 2002). One of these works is The Universal Geography, coordinated by Brunet and published in various editions, from 1994; or other specific regional works, such as those about the United States published by Bethemont and Breuil (1989), by Gauthier, Dorel and Reynaud (1994) and Boal and Royle (1999); about Central America (Musset 1990 and 1994); Latin America (Preston, 1996); Australia and New Zealand (Robinson, Loughran and Transter, 2002), Tropical Africa (Gleave, 1992), Europe (Lopez Palomeque et al, 2002), and also studies conducted about some Asian countries: China (Songquin, 1994); Japan (Bloc-Durafor and Mespelier, 1991). In the works mentioned here exists an ana;ysis of geographical risk as a determinant element of life in these territories.

2. RISK REGION'S DEFINITION AND CHARACTERISTICS

2.1. The definition of risk region.

Many definitions have been set on the term of risk region, which took into consideration either one or both risk components (hazard and vulnerability), or induced environmental and socio-economic effects and the society's feedback to them.

Risk region is a territorial analysis unit of variable size, which reveals the vulnerability of a population to an extreme natural event.

Risk region represents a geographical area of known size affected by one or more natural hazards affecting the population, settlements and the human activities around it.

A more complete definition is that which takes into account in the analysis of territorial systems, together with the two components of risk, the environmental, social, economic and cultural aspects of the studied area.

2.2. Characteristics of risk regions.

These characteristics are different because in a given space many hazards manifest themselves, which have different effects on society, the environment and made goods. Meanwhile perception and prevention and control measures are very different, depending on a variety of intrinsic and extrinsic factors. From the above

it follows that the main feature of an area of risk is the spatial, structural and functional complexity. In many cases the spatial complexity is determined by latitude and altitude zoning of hazards (especially climatic and hydrological hazards), and the different distribution of civilizations on Earth (risk culture). In this regard Dauphine (2001) noted three geographical domains. The first area includes the advanced countries (USA, Japan and Europe), which consolidated ways to minimize the effects of natural hazards, but increasing the frequency of technological risks. The second domain corresponds to developing countries, to which the essential feature is the lack of management mechanisms for states of emergency and defense against risks. The third domain would be formed by the former European socialist countries, characterized by an unbalanced environment determined by the old mentalities that allowed abuses on the environment.

Another important feature of a risk region is its dynamic character, which is that any geographical area is subject to change over time. This feature is primarily driven by frequent changes in population's vulnerability occurred in the region at risk. The other component of risk can intervene, meaning that geographical space currently unaffected by the danger can become a risk region in the future. The dynamic nature of risk components does not offer precise delimitation of a region at risk.

3. CRITERIA USED IN RISK REGION'S DELIMITATION AND RANKING.

In the delineation and prioritization of risk regions it is necessary to choose criteria that allow a fair approach to the multiple features of an environment.

The ranking of affected territories by various hazards requires choosing a criterion which allows the analysis of multiple features of a territory.

The priority is now given frequency criterion which considers the impact of a natural hazard. Characterization of a geographic area based on the natural risk that most frequently affects it, giving great operation in the analysis of territorial division. The dominant frequency of one of the hazards affecting a space applies if the territorial unit is affected by several natural hazards.

Given territorial significance by the dominant frequency of an extreme event has an important role in mapping and prioritizing risk regions. Besides this temporal risk attribute, others may be used such as space (the size of the affected area), dynamic (intensity), energetic attributes (potential, conservation and impact energy, magnitude).

Characterization of a territory based on risk degree in the face of a great event can be adapted to different levels of regional analysis (domains, area, region, land etc. (Tables 1 and 2)

Table 1.Characterisation of "risk - domains" in Europe
(after Cantos, 2006)

Domain-region	The natural risks that affect it
Mediterranean Europe	Flooding and droughts, earthquakes, volcanism
Western Europe	Storms (wind, rain)
Central Europe	Flooding
Alpine Europe	Avalanches, storms
Northern Europe	Wind storms
Eastern Europe	Cold waves

Table 2. Frequent risks in Romania's major regions

Region's name	The natural risks that affect it
Carpathians	Flooding, avalanches, earthquakes, windy storms, cold waves, landslides.
Sub Carpathians	Flooding, landslides, earthquakes.
Plateaus	Flooding, droughts, landslides, earthquakes.
Plains	Flooding, droughts, heat waves, cold waves, earthquakes.

If a territorial unit is affected by more than one natural risks, the characterization of a risk region is made using one of the hazards prevailing in frequency, duration and affected area, because that will mark the evolution of the investigated area.

Characterization of a geographical area by the risk that affects it in the highest degree gives dynamism to the analyzed territorial division.

The regional division of a geographical area, together with the criterion of a *hazard's frequent impact* on the society installed in a given environment, is used the criterion *vulnerability* that allows the ranking of vulnerable territories to major natural risks (Table 3). In this respect the European Union, under the new policy of land ordering, conducts risks analyzes in the European geographical space that can serve as a benchmark in developing risk maps.

Finally were defined five categories of danger and five categories of vulnerability. Their combination resulted in 25 levels of risk in European territory .

Table 3. Europe's vulnerable territories to the major natural risks
(after Cantos, 2006, with additions)

Major natural risk	Vulnerable territories
Drought	Mediterranean, Central and Eastern Europe
Flooding	Central, Mediterranean and Western Europe
Earthquakes	Eastern and Mediterranean Europe
Volcanism	Mediterranean Europe

Major natural risk	Vulnerable territories
Landslides	Mediterranean, Central and Eastern Europe
Avalanches	Alpine, Carpathian and Northern Europe
Heat and cold waves	Western, Central, Eastern and Mediterranean Europe
Windy storms	Western, Central, Eastern and Mediterranean Europe

The land surface presents territories which cannot be included in risk regions because they are not affected by natural hazards of significant frequency. But, due to the dynamic of risk components, they might be included in the future in a risk region.

CONCLUSIONS

Risk regions analysis is necessary in determining the defining characteristics and the criteria that will allow their ranking according to the effects that can generate natural risks and the prevention and control measures necessary in such cases.

Knowing the defining characteristics of a risk region is very important in elaborating studies about land's dynamic.

For determining the vulnerability degrees to extreme events is very important to know the defining attribute categories and the relations between these attributes.

Knowing the defining characteristics of a risk region is useful not only for specialists in various activity domains connected with risk's study, but also for the decision-making bodies at different levels (national, regional and local).

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