TEMPORARY CONSTRUCTIONS AND LANDSCAPE RECOVERY AFTER DISASTERS

CONSTRUCȚII TEMPORARE ŞI REABILITAREA PEISAJULUI DUPĂ DEZASTRE

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Abstract. *Over time, there have been many examples of natural disasters and beyond, from which entire communities were destroyed and people left homeless had to receive help from authorities.This paper focuses on just this kind of temporary building to house victims, and to what extent these types of construction can contribute to the landscape recovery.*
Key words: natural disasters, temporary buildings, landscape recovery.

Rezumat. *De-a lungul timpului s-au înregistrat nenumărate exemple de dezastre naturale şi nu numai, în urma cărora comunităţi întregi au fost distruse, iar oamenii rămaşi fără locuinţe au fost nevoiţi să primească ajutor de la autorităţi. Această lucrare analizează tocmai acest tip de construcţii temporare pentru adăpostirea sinistraţilor, şi în ce măsură aceste tipuri de construcţii contribuie la reabilitarea peisajului înconjurător.*
Cuvinte cheie: dezastre naturale, construcţii temporare, reabilitarea peisajului.

INTRODUCTION

This paper proposes an analysis of how technical (constructive) response and the opportunities of natural sites that can compete at a favorable resolution, while identifying key risk generating situations in the current territorial planning and management strategies for emergency situations.

MATERIAL AND METHODS

Recent years have brought many situations where natural disasters (especially floods) have put Romania in front of some disturbing facts: systems and site improvements designed for risk reduction underwent a continuous degradation, with devastating effects on the occurrence of unwanted "events".

An assessment of the building fund generated by disadvantaged sections of society (both rural and urban outskirts), shows the presence of another major risk to our country: earthquakes.

After such occurrence, the authorities are put in a position to intervene as quickly, primarily to reduce the destructive effects and then to shelter people who are at risk after partial or total destruction of homes.

In this segment, are generated enormous costs related to the necessity of investing resources in building temporary shelters and from the disruption of normal economic activities (people are put for a certain period in a position to reorganize life).

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This economic and social turmoil fully justifies an approach in developing a constructive system with reasonable cost-performance ratios and analyzing the opportunities generated by landscape recovery with all its components in parallel with the technical and administrative approach.

RESULTS AND DISCUSSIONS

Literature that addresses the issue of disaster mitigation strategies and their effects identified three types of events, each with its specificities: a first category of events with natural causes, a second with technological reasons (which cover the hazardous materials and waste) and a last category, which has become increasingly global presence, the terrorism.

An analysis of frequent disasters in our country lead us to channel the discussion on natural disasters, terrorist threats and technological events, although generates dramatic effects are less likely.

A variety of unpleasant events, generally described as natural phenomena, can affect a community. Problems arise when these natural phenomena occur in areas inhabited by men: flood plains, in areas exposed to strong winds generating winter snowstorm in proximity of earthquake faults, unstable slopes or in dry areas with increased risk of forest fires.

For an event to be classified as a disaster should have a major impact on community life. Any event on catastrophic proportions affecting unpopulated areas cannot be termed as disaster. These events disrupt the social life in the communities affected, causing resident's relocation and interruption of activities in schools, hospitals and in the administrative area. Are affected in many cases vital infrastructure: water supply, electricity and communications.

Earthquakes, as historical records show, are events that have a major destructive potential.

Interdisciplinary researches done on earthquakes conclude that damages that occur depend on several independent factors:

- characteristics and structure of the seismographic fault;
- earthquake size, evaluated as magnitude;
- frequency of large earthquakes with large magnitude;
- proximity to the epicenter of a community occupying a built environment, served by infrastructure;
- attenuation of seismic waves in relation with the distance from the epicenter;
- specific conditions of sites where ground vibrations can amplify certain frequencies;
- resistance of buildings and infrastructure affected by the earthquake. (Stoltman, 2007)

"Flooding" is only part of the relationship between water and human activities. The term is used to describe the presence of water in territories that are usually dry.

Floods are part of natural processes that are perceived to be catastrophic only in relation to human activities. There is also the reverse this statement: periodic flooding that is taking place in many parts of the world, produces abundance due to the nutrient rich silt deposits.

For a great part of the world population, floods are important events with annual repetition.

Floods are essential to ecological balance in many areas; this phenomenon is a natural part of the hydrological regime of any river.

Floods can be caused by tides or storms at sea, by rivers or streams, because of sewers overflow in urban areas, by the sudden melting of snow, or because of accidents that generate collapse of dams or dikes.

Flooding can occur due to weather conditions developed far away from flooded areas.

In Romania, we are witnessing in recent years disasters due primarily to the development of settlements in flood plains. Other risks for the population are the degradation of hydrotechnical works, massive deforestation and slow response of authorities in the evacuation of those exposed.

Urban planning took into account more recently real estate pressures exerted by population than the need to protect life and property, allowing built development of constructions on flood plains towns.

A particular situation is represented by snowstorms that succeed to block entire regions.

Beyond the lack of organization of authorities taking action to maintain circulation even on main routes of communication, we have seen recently a serious problem: the disappearance of forest belts in the plains lead to the endangering of villages with disruption of normal life for weeks on end.

When this phenomenon becomes apparent, as with the case of floods, the participation of landscape in generating a livable habitat becomes important (stabilizing the banks of major rivers and by setting snow away from settlements).

The first forest protective curtains were made in 1880 in Ialomița. Then in 1884 were planted in southern Oltenia protection curtains with a view to avoid desertification over a length of 95 km with a width of 1-3 km, the *Acacia* species being used.

The effect of these forest curtains was positive in the sense that agricultural crops in that area were much higher.

Until 1937 there was no protective curtains planted, but in that year, this activity was resumed, so in 1957 there were already 9,500 hectares.

In 1969 according to a Decision of the Council of Ministers, it begins the deforestation of protection curtains, in order to create farmland. In the same year, after clearing these curtains, summer winds raised and deposited a thick layer of sand, emphasizing the trend of desertification. Of the existing 9,500 hectares in the period, 1969 to 1980 remained only 900 hectares. (Racolta, 2012)

Only in 2002, the Romanian Parliament adopted Law 289 of May 15, which sought primarily to identify areas where forest belts are required, establishment, management and how to finance this work.

After this brief overview of general issues related to defining risk factors, we will mention that in our country the most common approaches for housing people after disasters generate responses in the area of building "low cost" houses. The idea of creating temporary shelter always generated anguish among both public and especially among those affected.

The problem with the attempts for sustainable development after disasters is that in many cases people are overwhelmed by the seriousness of the situation and the urgency of solving the basic needs for food and shelter. (Phillips, 2009)

Housing is the major problem to be addressed in a process of reconstruction after a disaster. Homes are often the biggest investment that most families can afford, representing approximately 70% of urban area buildings. Housing destruction has a profound influence both on economically and psychosocial level, as few owners cam afford the luxury of paying insurance to entirely cover such damage.

The psychological state of those involved is actually worsened by this mechanism: despite the focused economic effort, during post disaster recovery people are getting poor living conditions in tent camps or in public institutions that shelter them.

This research tries an optimization of the administering authority response for such situations by highlighting all the components participating in the phenomenon.

Significant resources are estimate to be allocated in a post disaster situation, with repetition every few years, fact that reinforces the need for judicious planning.

Any response in the area of temporarily housing people exposed in the way of disaster, will certainly take into account both the opportunities "free input" of energy and favorable site conditions. In the light of emerging needs in post-disaster situations, it becomes important to define the term "landscape" beyond the design requirements in terms of sustainable development.

"Landscape" in this context will be defined as that part of the habitat that complements recovery approach for suitable housing conditions with specific contributions: enhancing quality of life, cultural value, ecological value, economic value.

The impact of the "landscape" factor in disaster recovery economy of resources and processes. A very popular concept behind the disaster recovery strategies is sustainability. Brenda Phillips identified six principles underlying this concept: building a consensus through a participatory process of recovery, quality of life, economic vitality, equity and environmental quality; prevention to create a disaster resistant. Interesting from our point of view will be the extent to which "landscape" is involved in these processes.

Participatory processes

Putting in discussion a large number of issues will trigger community involvement in decision-making. Expression of these wishes will generate more understanding from the community for unpopular decisions. Those who manage resources for recovery will have to build this "fund of sympathy" on community attachment to the "cultural landscape".

Quality of life

As opposite to the more subtle concept of life quality, pressure to rebuild is felt stronger by most. Including these concerns in the reconstruction effort will generate attachment to the urban landscape and for local identity. Places where we live matters more for each of us than an abstract idea about an "ideal city".

Economic vitality

Economic activities that have survived a disaster are generally activities that were successful and before the disruptive event. Reactivation of economic activities is vital for generating an increased dynamic of community recovery after a disaster, thru fees that are paid and by revenue generated in the community. The resulting economic value of restoring the landscape will be put in balance with the victims need for sheltering. Therefore it is necessary global thinking that can use resources towards a sustainable development of affected human habitat.

Equity

Although not all have the same chance at recovery, a strategy aimed at sustainability, should consider setting up premises for an equitable solutions to problems that arise following a disaster. Noting that the social dynamics is a generator of cultural landscape, a holistic approach should take into account the reverse mechanism: landscape recovery with all its components can compete with other factors to restore social and cultural attachments.

Environmental quality

Post-disaster recovery provides an opportunity to start protecting natural resources and even change how we interact with the environment. Reconstruction can address problems that could not find answered before such as creation of new parks with permeable surfaces to increase water retention, thus avoiding overflows and flooding of those areas.

Disaster resistance

By incorporating preventive measures in the recovery, process after a disaster can reduce the impact of future catastrophic events on communities. There are two forms of disaster mitigation: structural prevention (as addressing anthropogenic structures: buildings, dams, the proportion of surfaces with high water retention to waterproof areas), and non-structural preventive measures

consisting of insurances, alarm systems for those exposed, educational programs and "planning".

CONCLUSIONS

As a final word, landscape rehabilitation in parallel with housing and facilities rehabilitation after disasters should be a basic component of coherent regional planning and prevention of losses both in economic and social area. It is also especially important the consolidation of the public confidence in the responsiveness of the authorities.

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