

# **Psychological Aspects of Disasters and Natural Calamities – Romanian Disasters in 2005 and 2006**

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**Key words:** flooding, Romania, psychology

## **SUMMARY**

On the background of increasingly frequent abnormal and violent natural phenomena occurring at global level, it is imperative to envisage the most effective means of preventing and mitigating natural hazards. Such efforts of dealing with natural calamities ought to take into consideration both economic and social-psychological aspects.

Natural disasters generally imply:

- disruption of everyday life by unplanned physical events
- they cause significant damage to people and the environment
- their occurrence is sudden, unexpected and disruptive
- something can be done to mitigate the effects prior or following their occurrence (Kreps, 1984).

Research in the newly emerging field of natural disasters has shown that, when confronted with life-threatening events, people instinctively act in a salutary way. This instinctive behavior would be significantly more beneficial if corroborated with prevention and management projects. The problem is that people focus on immediate problems and generally disregard potential problems lurking in the background such as flood or land sliding.

The great benefit we have in the aftermath of natural disasters is that they become significantly more salient. This enhanced salience means that people are more prone to get informed, understand, initiate and sustain preventive projects. Some of the types of early intervention in natural hazards are: crisis intervention, psycho-education and psychological

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## 1. INTRODUCTION

One of the major challenges of our century is climate change, a complex area of paramount importance where increased knowledge and efficient management can help take timely and appropriate measures for dealing with climate-related challenges.

On the background of severe, abnormal and very dangerous natural phenomena that occurred at a global level in recent years, it has become increasingly important to envisage the most cost-effective ways of preventing, and dealing with such extreme situations both from an economic and a social-psychological point of view.

In recent years and especially in the last two years, Romania has been confronted with serious, atypical and particularly intensive natural phenomena, which determined an impressive death toll, unparalleled damage to economy, infrastructure and communities. All these have been the result of severe flooding that affected almost all regions of the country. According to the 2005 annual report made by the Romanian Ministry of Environment and Water Management, uncontrolled and injudicious deforestation significantly contributed to this state of fact. Since prevention and management of flooding is a matter of concern to most European states and because many important rivers extend throughout the territories of multiple states, only a complex action at European level can claim to be successful. This aspect was highlighted by the European commissary for the environment, Stavros Dimas (Mediafax, 2006).

In July 2005, 243 l/m<sup>2</sup> of rainfall were registered near Bucharest, this being a historical record since 1874 when official observations and measurements began (Barbu, 2005). In April 2006 only, 16.000 people were evacuated due to the life-threatening conditions posed by the swollen waters (BBC). Thousands of hectares of cultivated land were flooded and hundreds of tones of anticipated crop production were completely lost, making the overall situation all the more dramatic. Annually, 10.000 hectares of land are flooded, on average 10 people lose their lives and the cumulated damages so far caused by the flooding exceed 10 mil. Euro.

Although the causes of such regrettable natural hazards are numerous, some of them are obvious and should be taken into consideration:

- increased vulnerability of buildings and infrastructures
- drawbacks in the conception and implementation of preventive measures
- neglect concerning maintenance and exploitation of existing protective infrastructure
- increased climatic variability manifested in increased frequency of extreme meteorological phenomena
- intensified use of the land

- uncontrolled deforestation

On the background of such dramatic life-shattering events occurring increasingly often at local and global level, it becomes imperative to study, attempt to understand and conduct research in this relatively new field.

The first and foremost reason why natural disaster studies should be performed is to enhance sociological, management-related and technological knowledge and thus to make one step forward towards disaster prevention. According to social researcher Fritz (1961, as cited in Kreps, 1984) disasters are “events, observable in time and space, in which societies or their larger subunits (e.g. communities, regions) incur physical damages and losses and /or disruption of their routine functioning. Both the causes and consequences of these events are related to social structures and processes of societies or their subunits”.

Most researchers consider that the following are true for natural disasters:

- disruption of everyday life by unplanned physical events
- they cause significant damage to people and the environment
- their occurrence is sudden, unexpected and disruptive
- something can be done to mitigate the effects prior or following their occurrence (Kreps, 1984).

## **2. ROMANIAN STUDY-CASE**

### **2.1 How was it Possible that such Large Areas be Affected?**

Romania’s hydrographic system is a circular fairly complex one with an impressive number of very small, small and large rivers flowing all over the territory of the state. Nearly all of these rivers eventually flow into the Danube, which also represents Romania’s natural border with Serbia and Montenegro (partly) and Bulgaria. It was especially those areas on the bank of the rivers that were so severely affected by floods in the past two years.

This year the Danube placed far more problems than ever before. When entering the country, the flow of the Danube reached a historical peak of 15.800 m<sup>3</sup>/s in April, the previous highest peak being 14.600 m<sup>3</sup>/s in 1970. Along the river, almost all rural areas and some of the urban ones as well were affected to a certain degree by the over-flown waters of the Danube that exceeded all attention and danger limits. Map1 and map2 annexed in the appendix depict how and to what extent the Danube exceeded its normal course.

Property damage is the principal cost of disasters in the United States and to all likelihood in Europe as well. The degree of loss is positively correlated with the amount of assistance received (Rossie et. al, 1982 as cited in Kreps, 1984). This means that the more affected a particular human community is, the more assistance, in terms of material, logistic and moral support, will receive.

Thus, a logic inference can be drawn: there will always be social units affected by disasters to a somewhat significant level which are highly likely to be ignored or put on the “waiting

list”, while the highly affected one will receive the “lion’s share”. Understanding this social aspect is one means of ensuring a judicious approach to assisting the devastated areas and maintaining an appropriate damage- assistance ratio.

## **2.2 How do People Understand Prevention and Environmental Management?**

Quarantelli (1954, 1980, as cited in Kreps, 1984) found that people can adapt rapidly and seek safety and salvation when danger is recognized as imminent and life-threatening. This means that in crisis situations people tend to act rationally in a salutary way rather than irrationally and hazardously. When we corroborate this with protective “staying on the safe side” projects, management and general conduct, it seems that people could deal with disasters in a less costly way.

The problem is, however, that people avoid thinking about events with a probability of occurrence below some threshold (Kunreuther et al, 1978 as cited in Kreps, 1984). And evidence has shown that the probability that disasters might affect particular individuals severely and directly is very low. Thus, we can see how come disaster management and prevention is not quite a frequent topic on the agendas of government officials. They become frequent when natural hazards become frequent. What we ought to understand is not that people are unafraid of natural disasters, but that people are too preoccupied with immediate everyday problems and sometimes fail to foresee potential problems lurking in the background.

## **2.3 How Could we Mitigate Effects of Natural Hazards?**

More often than not it is unlikely to totally prevent the devastating effects of natural disasters. However, some steps can be taken to ensure better preventive measures and better mitigating procedures following occurrence of such calamities. In Romania’s case, ensuring a clear and comprehensive legal frame along with enhancing general adherence to these legal norms would greatly reduce the number of both human casualties and material damage. It has always been known that people can have a social conduct in accordance with (legal) norms that are strictly prescribed to them. In other words, adherence to the old roman principle *dura lex, sed lex* would prove beneficial. Thus, the number of buildings (irrespective of the purpose of use) erected on flood-threatened areas, with or without authorization should be greatly reduced.

Therefore, on the background of continuous regular flooding it becomes imperative to benefit from the existence of national maps with clear specification for different regions regarding the level of flood threat. Moreover, strict regulations concerning deforestation and wood-related industries are essential in a viable attempt to control and prevent, to whatever extent possible, the occurrence of such disasters.

## **2.4 How do People's Attitudes Affect Occurrence, Prevention and Mitigation of Flooding?**

What contributed to even greater material damage, human and livestock casualties was people's reduced level of environmental education. Hardly any of the numerous important dykes that served a protective purpose for the human communities in the nearby were reinforced or at least maintained since the 1970s and 1980s. Many of the people who were summoned to evacuate the threatened areas were reluctant to do so. Thus, the job of the officers deployed to help dyke enhancement and evacuation was significantly rendered more difficult. This unfortunate situation is explained by the fact that very few of the people living in the rural areas affected had insurance contracts for their properties and thus it was incredibly hard to part with and give up everything they had. One possible solution could be found in a legal norm rendering house insurance mandatory. Material losses and possibly human casualties could be significantly reduced.

## **2.5 What is the Bright Side?**

Individual knowledge concerning natural hazards and calamities is generally reduced (Turner as cited in Kreps, 1984). But enhanced knowledge is positively correlated with perceived seriousness of threat and previous direct or indirect experience (Wenger as cited in Kreps, 1984). The American National Academy of Science highlighted that it is difficult to initiate and sustain mitigation programs related to natural hazards because in the absence of a recent event, public attention is almost entirely devoted to daily and immediate problems.

The great benefit we have from the unprecedented flooding in recent years is that this issue has become very salient. This implies that people are more prone than ever to become acquainted, to know, understand and act accordingly. It is a very favorable moment to teach people how to prevent, how to mitigate and what to do in the aftermath of such hazards.

## **3. RESEARCH IN DISASTER PSYCHOLOGY**

The most common psychological reaction among disaster survivors are symptoms of acute stress and even psychological trauma and posttraumatic stress disorder (Norris et al, 2002 as cited in Reyes& Elhai, 2004).

Whereas an acute state of stress is a normal response to an abnormal situation, there are many factors which determine particular types of responses in population (Horowitz, Stinson & Field, 1991 as cited in Reyes& Elhai, 2004). What makes disaster- engendered psychological reactions different from various types of individual traumas is its collective impact.

Therefore, in the aftermath of natural hazards, instead of focusing on individual needs, community-based interventions should be directed towards enhancing the capacity of the affected community to provide appropriate support to its citizens (Reyes& Elhai, 2004).

The first measures indicated in such abnormal situations include temporary mass shelters, feeding sites, medical centers and morgues. It is important to take measures in the early phases of crisis

situations. Some of the types of early intervention are: crisis intervention, psychoeducation, psychological first aid.

### **3.1 Crisis Intervention**

In crisis situation people generally feel overwhelmed, confused and agitated (Roberts, 2000 as cited in Reyes& Elhai, 2004). The purpose of early crisis intervention is to assist people in regaining autonomous functioning. This type of intervention is generally performed by field clinicians by identifying the major complaint and articulating alternatives for immediate goals. Great attention ought to be paid to how support and assistance is given to the affected community. Regularly, following immediate attention and support, these people are soon forgotten, which then accentuates the state of emotional lability and helplessness. The aim of immediate crisis intervention is to ensure basic survival needs and to provide reasonable justification to feel hopeful (Reyes& Elhai, 2004).

### **3.2 Psychological First-aid**

The main idea behind psychological first-aid is that, just as people with little medical knowledge and experience can provide first aid to people in need, so people with no psychotherapy practice can provide relief and support to disaster-struck communities. Feelings such as empathy and compassion can make a difference for hopeless and confused people (Reyes& Elhai, 2004).

### **3.3 Psycho-education**

Psychological education is meant to help the affected individuals respond in a proactive and efficient manner and to reduce the psychological and social impact that is usually associated with such experiences. Some of the ways to do are the distribution of leaflets and brochures depicting common responses to stress and means to counteract it, public discussions in which people are encouraged to get involved, to make plans and contribute to a community reconstruction project. The media plays an essential role in helping psychological education achieve its aim.

## **REFERENCES**

- Reyes, G. & Elhai, J. D. 2004, Psychosocial Interventions in the Early Phases of Disasters, *Psychotherapy: Theory, Research, practice, Training*, vol. 41, no. 4, 399- 411
- Kreps, G. A. 1984, *Sociological Inquiry and Disaster Research*, *Annual Reviews*, vol. 10, 309 - 330
- Barbu, S. 2006, *Rapport on 2005 Flooding, Crisis Management and Strategy for 2006*

## **BIOGRAPHICAL NOTES**

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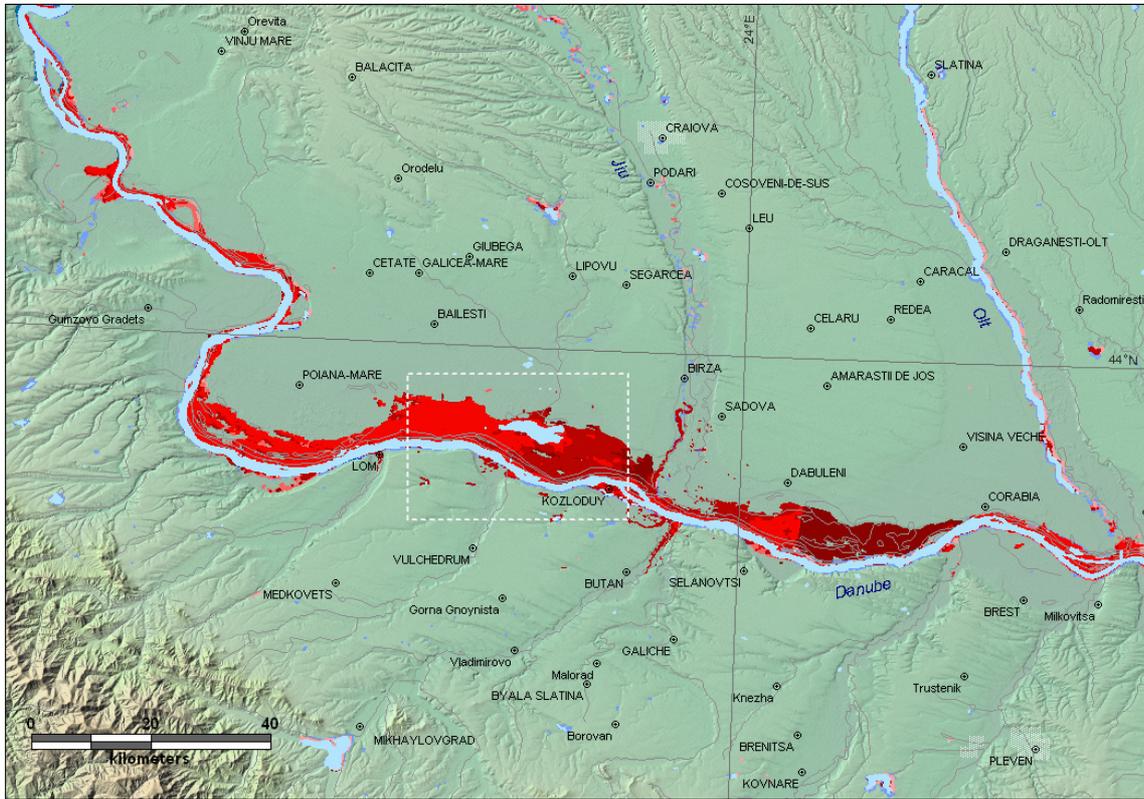
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# APPENDICES

## Map 1

### DFO Event # 2006-063 - Romania and Bulgaria - Lower Danube River - Rapid Response Inundation Map 1

MODIS flood inundation limit: April 24, 2006 (dark red), May 1, 2006 (medium red), April 26, 2006 (light red)  
MODIS reference water: light blue  
DCW Rivers: blue line  
Urban Areas: grey square  
Maximum Observed Inundation Limit 2000 - 2006: blue square  
Universal Transverse Mercator UTM Zone 36 North - WGS 84 - Graticule: 2 degrees Shaded relief from SRTM data  
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<http://www.dartmouth.edu/~floods/2006063Danube.html>

## Map 2

### DFO Event # 2006-063 - Romania and Bulgaria - Lower Danube River - Rapid Response Inundation Map 2

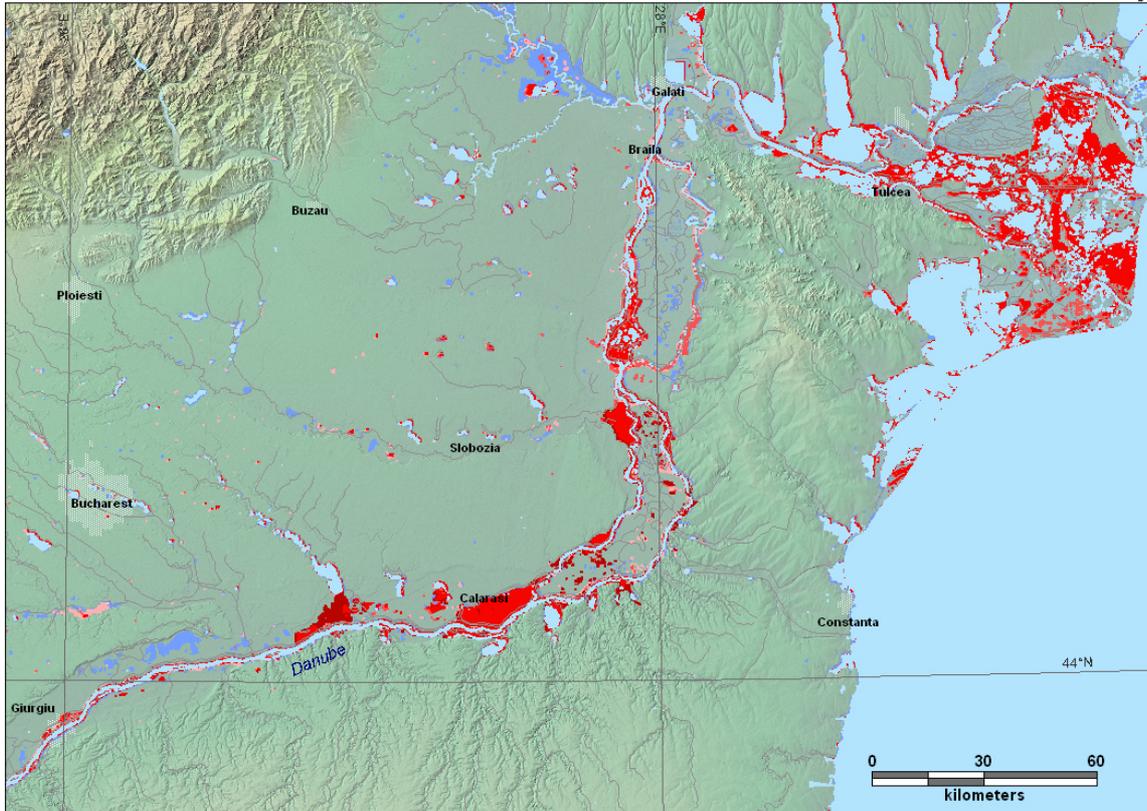
MODIS flood inundation limit  
April 28, 2006: ■ April 21, 2006: ■  
April 24, 2006: ■ March 20, 2006: ■

MODIS reference water: ■  
DOW Rivers: — Urban Areas:

Maximum Observed Inundation Limit 2000 - 2006: ■

Universal Transverse Mercator  
UTM Zone 35 North - WGS 84 - Graticule: 2 degrees  
Shaded relief from SRTM data

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