RISK MANAGEMENT SOLUTIONS FOR FLOOD AND EARTHQUAKE CATASTROPHES IN ROMANIA

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ABSTRACT. Most countries in the world are suffering from natural disasters caused by floods, earthquake, tornado and even tsunami. The developed countries have efficient techniques of covering such tragic events, but also the damages and losses are huge. A delicate problem appears when the catastrophes occur in a less developed country – where the risk transfer mechanisms aren’t known or applied by local governments. One reason of missing such a protection plan is the lack of financial resources from the people. In this paper we will both a theoretical and practical analysis of the situation that exist in Romania, and the steps that Romanian Govern intend to take, in order to decrease the exceptional expenses from the national budget – cause by natural disasters.

Keywords: earthquake, floods, Insurance, risk management, compulsory

1. INTRODUCTION

Nowadays globalization is certainly one of the hottest issues in relation to world economy, politics, culture, and society. As an evolution of this phenomena’s, the insurance legislation is trying to be the same with the European union legislation, so there are serious concerns about the compulsory character of home property insurance against the catastrophic risks. The transformations from the last 5 years from the labour market show that insurance industry has a big numbers of companies, which knew a high rhythm of development in the last years and will have the same previsions of growth for the future

2. NATURAL CATASTROPHES IN THE WORLD

To demonstrate the necessity of such insurance, we show that on international level there is a big concern about the catastrophic risks. Is very well known that some risks cannot be prevented (Tsunami in December 2004). So, there are lots of experts, specialized companies, non-profit organizations, governmental organizations with allocate funds to prevent if is possible the apparition of this events and to decrease the negative effects in case that catastrophic risks appear.

In the most areas (regions) of earth the most affected population are the people from village, which also have low (small) financial resources and are in generally poor. If we want to make a study of the situation from our country, we can notice from the

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below information that this kind of people are also the most affected by natural catastrophe in Romania.

World wide there are numerous statistics about floods and we can notice that even the most developed countries – USA for example, are dealing with the same problem. When hurricanes and tornadoes appear, with all the protection measures taken, the losses are huge. The worst losses in USA are:

1 - Hurricane Andrew 21,542 mil. USD, in 2003
2 - Hurricane Ivan 10,000 mil. USD, in 2004
3 - Hurricane Charley 8,000 mil. USD, in 2003

In the same statistic are the effects of Northridge Earthquake in USA with 17,843 million USD. Also in Japan – Tornado Mireille caused losses of 7,831 million USD in 1991, in France and Swiss Lothar Snow Storm caused losses of 6,500 million USD in 1999.

Because of the high temperature from the last years our country is exposing in the future to a catastrophic floods. A research of European Agency of Environment shows that Germany, Hungary, Romania and Switzerland were the worst affected of flood area in the last years. For the next future, the agency is estimating a growing of the number of flood, especially in the countries mentioned above. The conclusions of the study, presented by the European Agency in this spring don’t show very good news for Romania (are ominous). Climatically changes and growing in intensity of the floods will determine an overflow of the rivers and high floods, especially in the centre, north and north east of Europe. European specialists mentioned in the study the climate fluctuation and the floods from Europe- are foreseeing an increase of the number of local floods, devastating floods, short time floods, which will determined a high number of victims.

Changes in precipitations conditions - the tendency of the frequency and intensity of floods will be very close by the modifications in precipitations conditions, by overflow and by the climatically changes on the long term. The annual precipitations grow in the centre and the north of Europe with 10-40% in 1999-2000 and in the meantime in the south of Europe they decrease with 20%. The model of seasonal modifications show that in the winter time, the south and east of Europe become more dry, and in the meantime in many regions of north west of Europe become more abundantly in precipitations. Prognosis indicates increases of annual precipitations in north of Europe and summers more abundantly in precipitations in the most part of Europe.

The study shows that Europe had significant increase of temperature in the last 100 years, especially in the last decade. The warmest year in Europe in this period was 2003.

The waves of heat, which pass, throw Europe in august 2003 cause 35000 victims. The consequence of this heat was felt more in the north west of Russia an Iberia.
We can estimate that until 2070 the overflow will decrease with 50% in south and south east of Europe and will increase with over 50% ore more in many oft the regions from north or north east of Europe.

One thousand serious floods in 6 years. From the analysis of the international data base, referring to disasters shows that floods represent 43% from totality of disasters between 1998 -2002. In Europe record in this period, 100 serious floods which caused 700 victims. Also, floods, determined the migration of approx. half million of people and economic damage about approx. 25 billion euro.

Floods covered an estimated area of 1 million kilometres. About 1.5% of Europe population was affected. Through January until December 2002, were 15 important floods in Austria, Czech Republic, Germany, Hungary and Russia with approx. 250 victims and more then 1 million people affected.

The extreme phenomenon will become more frequent. Dr Roxana Bojariu, from Environmental Changes Department of INMH\(^2\) declared that extreme phenomenon like storms, high precipitations; drought will become more frequent.

The global climatic system is trying to find a balance after the batch of ozone was affected and after the extreme phenomenon was more frequent. This will have different results all over the world. In our country, for example alternate periods of high precipitations and low temperature with hot days, and in the meantime in Portugal or Spain there are terrible drought.

3. SOLUTIONS FOR COVERING NATURAL CATASTROPHES IN ROMANIA

Extrapolating these things in Romania, we notice that in this country there are also violent and catastrophic natural events.

In Romania, in 2005 Teleorman district with over than 5000 houses awash, is the most affected district from the floods (4728 houses were affected, 291 were totally destroyed, and other 1502 has serious troubles.) The gashing waters killed more than 10000 of animal and birds, inundate 6133 houses, 31 schools, hospitals, or administrative buildings, damaged 66 bridges and destroyed over 6 kilometres of national roads and 107 kilometres of district roads.

In 12.04.2006 after a year from the devastating floods in Banat, the people are confronting again with the fury of the water. Some houses from Gataia and Suclea were affected by water, at the foundation (basement) level. In total more than 140 houses were flooded in Timis district, 340 houses in Caras Severin (especially in Ghertenis). The national road 58B was bumped and the cereals were destroyed in hundreds of hectares.

Also 40.000 land hectares were covered by Danube and the losses are over 2.5 millions EUR. The worst problems appeared in Dolj district where 700 houses from Rast village were flooded and 115 completely destroyed.

\(^2\) Romanian National Institute for Meteorology
The national Government set up a Risk Management Committee that oversees the execution of the five-step risk management process:

- First stage: identify the risks. The nature evolution involves some degree of risk or uncertainty about future events. The first step in managing those risks is to identify them. No matter how probable or improbable a risk may seem, the employees of this Committee list it during the first stage of the risk management process.

- The Second stage: Evaluate and prioritize risk. Under step two the committee assesses the probability of each risk becoming reality and estimates the possible effect and cost for the national budget / or for individuals. The specialists must look at the past natural catastrophes in developing probability and cost estimates. Also consider the possible public reaction to an adverse event. Priority areas of concern will include those risks that are most likely to occur and are expensive when they do happen. Lower priority risks are those that seldom occur and are not likely to cost as much when they do happen.

- Managing the risks: The Govern must decide how to manage catastrophic risks, using risk management strategies. The risk management committee’s next task is to develop a written plan. The plan outlines how Romania will manage its major risks. The plan describes the suggested strategy, or combination of strategies. The basic strategies for controlling risk are:
  a) Risk Avoidance
  b) Modification of some conditions
  c) Risk Retention. Accept all or a part of the natural catastrophic risk in a special budget
  d) Risk Sharing. Consider sharing the risk with another organization – pool of insurance, reinsurance

- Implement risk management plan. Once the appropriate governing body reviewed the plan, the Romanian Govern should formally adopt and implement it.

- The last step: Review and revise the plan as needed. The nature of Commission requires that risk management strategies be revisited at least annually. The committee should continuously evaluate the risk management plan in order to maintain it relevant, comprehensive and effective.

All these steps are related to a Flood risk management that includes the use of flood defenses, where appropriate, but also recognizes that more ‘managed flooding’ is essential to meeting goals for biodiversity and to sustain good ecological status in river and coastal systems. In future, society will come to appreciate and value the positive benefits of the river and coastal ‘flood pulses’, while simultaneously developing improved coping strategies that will make communities resilient to the negative impacts of flooding. However, the success of this approach depends on integrating: enhanced defenses and warning systems with improved understanding of the river system and better governance, emergency planning and disaster management actions. In order to reach these aspects the local government must:
- Establishing a program of “cutting edge” research to enhance flood risk management practice worldwide;
- Short-term delivery of tools and techniques to support short-term improvements in flood risk management in the Romania;
- Development and training of the next generation of flood risk management professionals through their involvement in and exposure to the consortium’s research.

In Romania – using National Statistic Institute report, from the building built before 1940, just 3% are insured, and the ones built after 1989 just 7% are insured. From June 2004 to May 2005 3% from the houses suffered losses, most of the losses were caused by floods (52.8%), robbery and theft (17%). The main reason (that generates the refuse to buy a homeowner insurance) mentioned by the people is the lack of sufficient money. The part of these people is 67%.

The survey was done on 10,920 homeowners, 91.7% answered to the questionnaire, and the error is +/- 3%. There must be mentioned that, after this survey came a natural disaster in Romania cause by floods.

The year 2005 may be considered the year of floods catastrophes; catastrophes increased by the lack of insurances to cover theirs effects. At the end of May 2005 Insurance Supervising Commission (CSA) proposed to the Govern a new project of law to decide about the compulsory character of homeowner insurance, taking into account every area risks exposure.

Insurance enables householders and business to minimize the cost of damage arising from unforeseeable events that may affect their property. Insurers are able to provide financial support in circumstances where the peril is occasional, affects a limited proportion of the population at any one time, and where the cost can both be predicted and adequately covered by the premiums paid over a period. The higher the risk of an event happening and/or the cost of recovery, the higher the premium needed to cover it. Where events become too frequent, or result in too high a repair bill, insurance can no longer be offered at affordable rates.

Experience over the last decade or so suggests that flood risk is becoming uninsurable in some areas due to a combination of:

- More frequent, heavy rain;
- Poor maintenance of flood defenses; and
- Inadequate investment in protecting properties that have been built in flood risk areas.

Flood is a difficult risk for private insurers to underwrite for several reasons. For example, flood risks are not well diversified and serious floods tend to affect all properties within a widespread area, often leading to catastrophic losses.

This means that if flood insurance were to be compulsory the problem of adverse selection would arise. Adverse selection is the tendency for people with the greatest probability to show the greatest interest in purchasing insurance. In this situation only people concentrated in flood-prone zones would tend to purchase
flood insurance. These high-risk insured would be likely to purchase more insurance and have frequent claims, thereby exposing insurers to potentially crippling losses. Insurers would be forced to react either by charging higher premiums or by not providing insurance at all in these areas.

The project of law regarding compulsory homeowners insurance against natural catastrophes is desired to be active since 1st of January 2007. This project will be proposed to the Govern for approval at the end of June 2006, and during this summer the Specialized Commission of the Parliament will debate it. The applicable normative will be realized in October and will be approved by a Government Act. The Govern decided the maximum guaranteed sum insured would be 20,000 EUR, and the annual premium of 20 EUR.

If the value of a house is less than 20,000 EUR, the insurance premium will be smaller. If the value is more than 20,000 EUR, the homeowner has the choice of insuring the exceeding value to a specialized Insurance company. There will be also penalties for the people who won’t pay this insurance. The members of this insurance program will be the insurance companies licensed by Insurance Supervising Commission (C.S.A.). The main criteria will be financial performance and territorial existence. All these insurance companies will set up a reinsurance company to cede these risks outside of our country. This project is elaborated with the experts of World Bank. The specialists of the local insurance companies expect that won’t be the possibility to insure all houses. The negativist specialists don’t agree the idea of paying insurance for the people that built their houses in flooded area, or from poor materials, or houses already affected by floods or earthquakes. The reason is – lack of incertitude. More normal it is to be a different tariff for different situations. On the other side the initiators of this project mention the solidarity principle. The law will mention some fiscal facilities for poor people. The one who cannot pay the insurance premium will be helped; these amounts will be covered from the national budget.

The members of CSA don’t believe that in the next 8 months this law will be active. The Govern expect the law to be operable from the 1st of January 2007. But the people aren’t prepared for it. For the moment just a memorandum passed through Govern. There will follow a project of law to cover all the aspects of homeowner insurance. More over, in Romania adopting a law seem to be very complicated and long lasting. Even if the desired date is similar to the EU integration date, it is just a coincidence, because in EU there is no regulation about the compulsory character of homeowners insurance – and the percent of insurance is 80%. The initiative of such an insurance appeared in our country after the devastating floods in 2005, and from the Turkish experience after their earthquake.

There will also be a lot of debating about the fact that in our country aren’t a risks map. Even if there is a project with World Bank that mentions the object to establish these maps, the end of it seems to be far away. The Transport, Tourism, Construction Ministers also has no map risks. Just a month ago a specialized
commission has been set up to analyze some regions. More, this action plan would include in particular:

- Improving cooperation and coordination between different States through the development and implementation of flood risk management plans for each adversely affected river basin and coastal zone;
- Development and implementation of flood risk maps by Romania for its regions;
- Improving information exchange, sharing of experiences, and the coordinated development and promotion of best practices; these measures would in particular fall within the area of responsibility of the Insurance Supervising Commission;
- Developing stronger linkages between the research community and the authorities responsible for flood management;
- Improving coordination between the relevant Romanian Community policies;
- Increasing awareness of flood risks through wider stakeholder participation and more effective communication.

Almost 800,000 people already have homeowners insurance. That means almost 10% from the insurable houses. And they must subscribe for a compulsory policy. After ending the policy year period, they can insure again their houses just after paying the compulsory one. So the whole 8 millions houses must be insured for 20 euro premium/year/house.

When you are a flood insurance policyholder:
- Flood insurance compensates you for all covered losses.
- Coverage is relatively inexpensive.
- You can depend on being reimbursed for flood damages, even if the President does not declare a Federal disaster.
- You do not have to repay a loan, as you might have to with many Federal disaster relief packages. Your covered losses are paid in full.
- You can count on your claim being paid in the event of a flood loss because the government backs Insurance Supervising Commission flood insurance.
- We can help you handle your claim quickly, so that you will not have to put your life on hold if a flood damages your property. You can even request a partial payment immediately after the flood, which can help you recover even faster.

This business seems to be very profitable for insurance companies – in case there will be no substantial losses. Just in one year, the gross written premium for the entire market is 160 millions EUR. But there is no guarantee, because 2006 started with significant floods, the second consecutive year.
4. CONCLUSION
Taking into account these mentions the local insurance companies are preparing for competition. Some important insurance companies already divided the risks in theirs format policies. Now the risks are shared in general risks and catastrophic risks. The insurers offer by now promotional offers for buying homeowner insurance. In the moment this insurance will be compulsory, the insured people will present to the state supervisors the existing policy, and the one that don’t have insurance must pay for a new policy.

Beside this method, CSA study in this moment the opportunity to set up a new reinsurance company whose shareholders to be most important insurance companies in the local market. In this way all insurance companies will sell the same policy at the same price. It is very possible in this case that local insurer to offer discounts to other insurance products to the ones that choose their company. And this will be benefic both for society and for insurance companies.

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