

Risk Perception, Strategic Planning and Foresight Methodologies within the Romanian Emergency System

Marian Zulean
University of Bucharest
mzulean@faa.ro

Gabriela Prelipcean
University “Stefan cel Mare” of Suceava
gprelipcean@yahoo.com

ABSTRACT

The aim of this paper is to briefly describe the characteristics of the Romanian emergency system, risk perception and the use of strategic planning and foresight methodologies in emergency preparedness. The core of the paper investigates the perception of the local leaders of the ES regarding the most probable risks, the uses and utility of long term strategic planning and foresight methodologies, using the Delphi technique. Earthquakes and floods are considered to be the greatest risks, but the leaders do not feel well prepared for them. Lessons drawn from the Romanian transition provide an interesting case study for other new emerging countries.

Keywords

Strategic Planning, Foresight, Delphi, Romanian Emergency System, Transformation

INTRODUCTION

The study of transformation and use of strategic planning and foresight methodologies in the Romanian Emergency System is a very challenging task for two reasons. Firstly, it is challenging because the Romanian strategic culture is a rather reactive and passive one; the 20th Century World Wars, the Revolution of 1989 or some natural catastrophes surprised the decision makers. Secondly, transition to democracy and the conditionality of Western institutions required an institutional transformation towards decentralized decision and civilianization, including the transformation of defense and emergency systems. In the last two decades a new system has been built based on civilian emergency rules.

The National Management System for Emergency Situations is organized today by the public administration authorities and consists of a network of organizations, agencies and other structures established on levels and areas of competence, having the specific infrastructure and resources to fulfill its duties. The composition of the national system includes: emergency committees, the General Inspectorate for Emergency Situations, professional public community services for emergency situations, emergency operational center and commander of the action.

However, there is no estimation of overall functionality of emergency system, the planning mechanisms or to evaluate if risk analysis, mitigation and response are correlated. Our assumption is that foresight or long term planning is hardly understood or applied in the Romanian emergency preparedness system. Beyond „office assessment” there are not grassroots estimates on the functionality of the general principle of anticipation and strategic planning. Therefore, the main goal of our study is to briefly present the functionality of emergency system as well as to assess the role of foresight and strategic planning within the EP system of Romania.

ORGANIZING IN THE FACE OF RISKS AND THREATS: A DELPHI STUDY

For practical reasons (anonymity and expert based investigation) we decided to use the online Delphi to pursue the investigation. The design of Delphi started from the basic Handbook in literature of Linstone and Turoff that

considered Delphi technique rather “a method for structuring a group communication process” than the old approach of consensus building (Linstone, Turoff, 1975). It is important to mention that our approach was the first Delphi exercise ever for the Romanian Emergency System leaders.

A three rounds classical Delphi has been designed to address the issues related to strategic planning and foresight methodologies used by the Romanian emergency system at local level (42 counties) by the leaders of the General Inspectorate of Emergency Situations. The invitation and questionnaires were addressed to all 42 leaders of the local emergency systems by e-mail, 30 of them responded to a semi-structured questionnaire with some open ended questions in the first round. For the second and third rounds only 23 and 18 leaders answered, respectively, all of them being men in their mid-forties.

Research instrument and procedure

The questionnaires from Rounds 2 and 3 differed from semi-structured and open-ended questionnaires: they were mostly based on Likert scales to assess the agreement or disagreements with the statements or evaluation of the impact on scales with 4 points, an option of „don’t know” being separate. The option for a scale of 4 points was based on research experience in the Romanian culture of conformism, when everybody will go for mean of 3 on a classical 5 point Likert scale. The 4 point scale would force the experts to make a clear option and not going for the mean of the scale. However some of the findings that resulted as „strange”, unclear or divergent in the second round were added for investigation in the third round.

Research findings

The first research question assessed the main risks that can lead to disasters and extreme events in the area of respective leader responsibility and also to estimate their probability. In the first round, the estimation was based on a set of estimated risks by the National Security Strategy 2006 (10 risks were provide upfront) and giving the option to add more relevant risks and then to rank their probability. For the second round only the most probable five risks were selected (“large scale forest fires” being added by the respondents). The experts were asked to assess the impact of respective risks on their region, on a Likert scale from 1 to 4 and to agree or disagree with the ranking. All agreed with the ranking but a new risk of nuclear disaster was added to the five risks. The third round gave the opportunity to express disagreement with the calculated central tendency or to argue or motivate agreement. None of the respondents motivated, despite the fact they changed their estimation towards central tendency. The scale of their estimation was similar to the second round. Here are the results:

Probability of appearance	Round 2		Round 3	
	Mean	Std. deviation	Mean	Std. deviation
1. earthquakes	3,45	0,759	3,47	1,007
2. large scale forest fires	2,47	0,772	3,00	0,000
3. other natural disasters	2,83	0,618	3,00	0,000
4. catastrophic floods	3,43	0,507	2,94	0,243
5. industrial disaster	2,78	0,647	2,88	0,332

(Central Tendency and Standard Deviation for Rounds II and III)

Table 1. Degree of Impact of Threats (1 = very low impact to 4 = very high impact)

A decrease in the standard deviations can be seen between the second and third rounds, moving towards consensus with the exception of probability of earthquake that increased. Our interpretation of results is that earthquakes and catastrophic floods are considered the most probable risks for the local emergency leaders but the large-scale forest fire as well as other natural disasters showed up unexpectedly due to recent events in

Romania and Russia. However the 0,00 standard deviation we explain by the communication and talks between the leaders to show they have a different perception from the national agenda of NSS 2006.

The second question tried to find out how the ES is prepared to deal with such risks, in terms of scenarios, action plans or exercises. The results are presented below:

Risks/Preparation for disaster	R2		R3	
	Mean	Std. deviation	Mean	Std. deviation
1. large scale forest fires	2,78	0,671	2,94	0,243
2. catastrophic floods	2,70	0,559	2,88	0,332
3. industrial disaster	2,41	0,666	2,88	0,332
4. other natural disasters	2,43	0,598	2,18	0,529
5. earthquakes	2,13	0,548	2,12	0,485
6. nuclear accident	1,71	0,845	1,00	0,000

(Central Tendency and Standard Deviation for Rounds II and III)

Table 2. Preparation for disaster (1 = to a very small extent and 4 = to a very much extent)

From Table 2 it can be estimated that the leaders consider they are better prepared in terms of scenarios, plans and exercises for large scale fires while least prepared for a nuclear accident. It is interesting to notice that the earthquake is a very probable risk but the ES preparation is not very good (mean 2,12 in the third round).

The third question wanted to find out the perceptions of a need for a long-term approach or scenario (at least 10 years) in the principal phases of Emergency Management.

Need for long-term scenario	R2		R3	
	Mean	Std. deviation	Mean	Std. deviation
1. private insurance	3,20	0,834	3,82	0,529
2. preparing population for risks	3,43	0,598	3,24	0,437
3. risk mitigation	3,33	0,577	3,18	0,393
4. risk assessment	2,90	0,700	3,18	0,393
5. response / crisis management	3,10	0,889	3,18	0,393
6. community resilience	3,00	0,775	2,82	0,728
7. reconstruction of the region	2,90	0,852	2,82	0,529

(Central Tendency and Standard Deviation for Rounds II and III)

Table 3. Need for long-term approach or scenarios (1 = to a very small extent and 4 = to a very much extent)

For this question despite the fact that standard deviations decreased there is the largest change in perception regarding the need for long term approach. In the first round reconstruction of the region was considered the least important while preparation of population the most important domain that needs a long term approach, while in the third round private insurance has moved in second place.

The next question springs from the open ended question of the first round that determined the need for integrated management. Therefore, the second round collected the main definitions for integrated management of a crisis and tried to find out the agreement/disagreement with such statements on a scale from 1 to 4. A majority of the statements reached the level of agreement „to a great extent”, explaining a multidimensional approach to define integrated management.

Statement	Mean	Std. Deviation
1. "I believe that the integrated approach is based on what can be done with a resource and then to allocate it to the need. Starting from the resource I can plan an effective response according to the affected areas."	3.29	0.849
2. "Effective management of a regional crisis requires a single command, allowing a unitary coordination of forces and mobilized means. This includes unique plans, clear and distinct tasks, integrated communications, interoperable means, a single voice in relation to mass - media"	3.28	1.018
3. "Develop of a legal act/normative to impose mandatory measures for all policy makers (both at national level and also at regional and local level) to participate with resources for risk prevention, intervention to remove the effects and rehabilitation of the affected areas"	3.22	0.732
4. "It involves first joint legislative steps from the institutions that are part of this system. Then, must be developed sector capabilities to respond to crisis and an unique operational management"	3.17	0.857
5. "Developing a more restrictive legislation, appropriate provision/facilities to provide such management"	2.94	0.748

Table 4. Definition of Integrated Management (1 = agreement "to a very small extent" and 4 = agreement "to a great extent")

The last question/issue was also determined from the observation that despite the fact that the risk of a terrorist attack is highly ranked in the national security strategy, the local leaders of ES estimate it very low. Therefore we asked the following question „*In previous rounds the risk of a terrorist attack has been estimated as unlikely; also preparation to face such a risk at the local level is rather poor. On the other hand, in the National Security Strategy 2006, this risk appears to be very important. How do you explain this?*” We choose for this exploratory question a visual scale of ten points in order to determine the magnitude of agreement or disagreement.

Statement	Mean	Std. Deviation
5. "Terrorism is not the ES problem but of Internal Intelligence-SRI"	7.38	2.680
3. "The security system and the intelligence services discourage any terrorist attack"	6.38	2.187
4. "The weak preparation for a terrorist attack is due to a weak preparation of the population"	5.56	2.449
2. "Romania is a peaceful country and never attacked in her history another country, thus is improbable we will face terrorist attacks"	5.50	2.794
1. „ There is a wrong estimation of the terrorist risk in the National Security Strategy"	4.94	2.235

Table 5. Why terrorist threat is considered unlikely? (1 = "total disagreement" and 10 = "total agreement")

In our interpretation, the last statement that „terrorism is a matter of intelligence” not of Emergency System is the one that gets the most agreement. That is based on a Romanian reality because the legislation and military doctrines stated that SRI is the leading institution in combating terrorism. However it is a wrong approach for

ES, a lack of vision and responsibility, not consistent with what happened in US, Spain or UK and with the security sector and integrated management approach.

CONCLUSION

Romanian Emergency System faced a dramatic change from a highly militarized and centralized system going through a process of de-centralization and systemic reconstruction of civilian emergency based on the rules and regulations compatible with those of NATO and EU. The main challenges in the last two decades were: the national and local civil emergency institutions buildings, setting up the norms and regulations as well as the training of the personnel to address the uncertain environment of the new risks.

In order to assess the perception of the most probable risks and the utility of long term strategic planning and foresight methodologies a Delphi study has been employed for the leaders of the local emergency units. The Delphi study confirmed the perception that earthquakes and floods are the most expected catastrophes but – surprisingly- a consensus has been built around the probability and preparedness for the forest fires and other natural catastrophes of great concern for the local leaders, not considered by the National Security Strategy. Another surprise finding is the consensus regarding the fact that the ES is the least prepared in terms of scenarios and plans for a nuclear disaster and earthquakes (quite unexpected since the Chernobyl hazard happened in 1986 just 500 km away from the Romanian border and now Romania has a big nuclear plant).

On the other hand, an issue that showed up during the Delphi investigation was the definition of *integrated management*, which everybody coined as a strategic instrument of the ES leaders. An open ended question in Round 2 brought up a large portfolio of definitions about “integrated management”.

The last issue for investigation was inquiry regarding probability of a terrorist attack on Romanian territory. It is rather an issue of great concern that the civilian ES don’t consider it because it is the responsibility of the intelligence services.

On the methodological realm, the Delphi technique has been a very useful instrument to pursue the investigation being a flexible instrument, its goal being modified in the second and third round to serve to the general objective of research. Another change in applying the instrument has been proposed in the Round 2 when we distributed a similar questionnaire to another sample of national leaders and experts for “triangulation” to find out if there is a bias regarding the issues on terrorist risk perception and integrated management definition. Our methodological conclusion checked the supposition of Linstone and Turoff that “the future of Delphi will be in collaborative organizational and community planning systems that are continuous, dispersed and asynchronous” (Linstone and Turoff, 2010).

This is a work in progress, a further round of investigation will follow and policy proposals to improve the strategic planning of ES and build a community of practice by incorporating foresight methodology. A new round of Delphi will address the gap regarding the perception of terrorist threat on national level and on local ES leaders as well as the gap between the expected threats of earthquake and floods and preparation in operational terms. On the other hand the research will continue to discover how Romania should build a community of practice to include academic research and practitioners and to integrate foresight as a tool for long term planning.

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