ID 1718 | THE PROFILE OF RISK GOVERNANCE (IN MUNICIPAL PLANNING) IN PORTUGAL

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ABSTRACT: This paper aims to define a risk governance profile for hazards with direct intervention in spatial planning, considering the various perspectives involved in Portugal. In risk management, relations between the different levels of the State acquire a successively relevant role, taking into account approaches of cooperation between the national, regional and local actors. Recognizing for the Portuguese case, the weight and influence of the State in the management of risks and the growing diversity of actors and interests involved in land use planning, we question the distribution of responsibilities in risk management among government actors at different geographical levels (local, regional, national) and, beyond the State, which stakeholders and interests. Based on an adaptation of the model proposed by Walker et al. (2013), a risk governance profile was defined for Portugal for hazards\risks with direct intervention in spatial planning, considering the various perspectives involved. In order to support the identification of the governance profile, an online questionnaire was built and an e-mail was sent to the target public, in 2014. Unlike the model advocated by Walker et al. (2013), where a qualitative and non-measurable risk governance profile is chosen, the adaptation of the survey considered an evaluation scale. The identification of the different stakeholders involved in risk management was based on the information obtained from the literature review, analysis of the legislation and discussion with some of the key actors in the field of civil protection. Among other conclusions, the obtained risk governance profile highlight a relevant role of local government actors in the decision-making process, a low culture of multi-stakeholder participation\involvement, and infrequent and limited risk public communication. At the same time, it showed the interest manifested by the technicians of the local administrations focused on the decision on the spatial development, guaranteeing compliance with the legislation. The importance of the risk governance profile derives from the possibility it offers in the identification, evaluation, management and communication of risk, as well as a relevant basis for the development of a spatial decision making support system on the transformation of land uses that integrates the analysis of natural and technological risks.

KEYWORDS: risk governance profile; spatial planning; risk stakeholders.

1 INTRODUCTION

In Portugal, the emergency response continues to be based on Humanitarian Associations / Voluntary Firemen (Amaro, 2009), although Walker et al. (2010) identify a change, in the sense of a greater diversity of actors involved, in the development of new functions, stronger forms of collaboration and partnerships. In risk management, relations between different levels of the State play an increasingly important role, taking into account approaches of cooperation between national, regional and local stakeholders.

Recognizing for the Portuguese case, the current influence of the State in risk management, and the diversity of actors and interests involved in spatial planning (Mileu,2016), this article searches the way in which responsibility in risk management is distributed among government actors at their different levels (local, regional, national) and which actors and interests are involved? The answers to these questions will allow the identification of stakeholders, their relations and priorities (driving forces) in the land-use transformation and how risks are considered in decision-making.

Based on an adaptation of the framework proposed by Walker et al. (2013), this paper aims to define a risk governance profile in Portugal for hazards / risks with direct intervention in spatial planning. This model is based on several key characteristics identified in the governance literature as well as in specific works on risk governance and that allows in a simple way to determine the variability and dynamism of risk governance practice.

2 METHODOLOGICAL APPROACH FOR PROFILING RISK GOVERNANCE

Based on the risk governance framework proposed by Walker et al. (2013), a model based on the same eight key characteristics was adapted, namely the governance scale and its distribution between national (1), regional (2) and local levels (3), with a spectrum from weak to strong in each case; how much those at risk are expected to be responsible for protecting themselves, compared to how much responsibility rests with government (4); the extent and culture of stakeholder participation in the governance system (5), extending from high to low; the type of insurance provision in place, in terms of how much this is marketized and segmented according to level of risk (6); the extent of communication with the public about risks (7), extending from high to low; and the degree of balance between governance tasks and the availability of resources for such tasks to be carried out (8).

To get a risk governance profile in Portugal for hazards / risks with direct intervention in spatial planning a survey was used. The survey was developed on the online platform www.surveymonkey.com, and was sent to the target audience by e-mail, between January 19 and April 19, 2014 (it was available at https://en.surveymonkey.com/s/CYYTZ9V). The dissemination of the survey was carried out using a list of contacts and using the National Association of Portuguese Municipalities as a facilitator near the municipalities.

Unlike the model advocated by Walker et al. (2013), where a qualitative and non-measurable risk governance profile is chosen, the adaptation of the survey consider an evaluation scale between one and four.

3 APPLYING THE FRAMEWORK

3.1 THE STAKEHOLDERS

The identification of the different stakeholders involved in risk management was based on the information obtained from the literature review, analysis of the legislation and discussion with some of the stakeholders. As a result, 156 valid surveys where obtained, with a significant number of responses from the central and local government (59%) and from the general public (17%) (Figure 1).

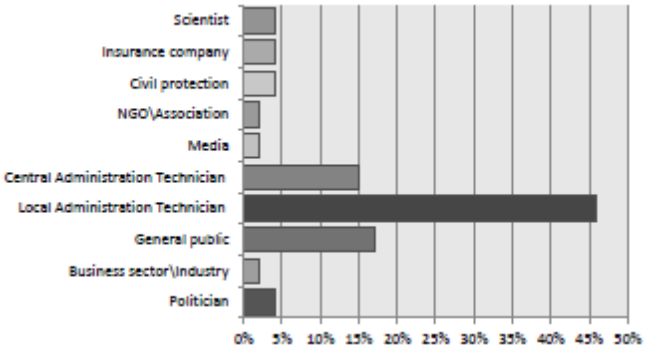

Figure 1 – Survey answers by stakeholder
Source: Survey

In spite of the interest and involvement of the different stakeholders in the management of risks, assume some volatility and different configurations, a question about the interest associated with spatial planning and\or risk management, was included in the survey. Table 1, adapted from Westen et al. (2011), is a summary of the stakeholder's involvement in risk management and results from the analysis of the responses of the stakeholder's to the different interests manifested in risk management.

Stakeholders	Interests manifested
Civil protection	Ensure adequate measures for disaster response.
Scientist	Develop scientific studies on hazards\risks and disseminate such studies to the community and administration.
Media	Publish information on disasters and their impacts.
Central Government Technician	Ensure compliance with the law.
Local Administration Technician	Support the decision about territory development in compliance with legislation.
NGO\Association	Promote environmental and sustainable development.
General public	Living in the desired location without restrictions.
Politician	Ensure people safety, do not cause controversy and maintain popularity.
Business sector\Industry	Ensure the development of the activity without restrictions.
Insurance Company	Sell insurance policies associated with the real value of risk and make profits.

Table 1 - Interests manifested by different stakeholders in risk management
Source: Survey

3.2 HAZARDS RISKS WITH DIRECT INTERVENTION IN SPATIAL PLANNING AT MUNICIPAL LEVEL

The examples of risk governance profiles presented by Walker et al. (2013) concern a particular natural hazard (floods) or a series of natural hazards (volcanism and earthquakes\landslides and earthquakes). The risk governance profile obtained from the survey concern to a set of hazards that have a common characteristic: their direct intervention in spatial planning. The hazards identified by the stakeholders in their evaluation, allow us to perceive the relevance of the different hazards in Portugal in spatial planning, even if influenced by interests and involvement (Figure 2). Considering the survey results, floods and forest fires assume greater importance, while the subset of other hazards, which included tsunamis or technological hazards, assumed less importance.

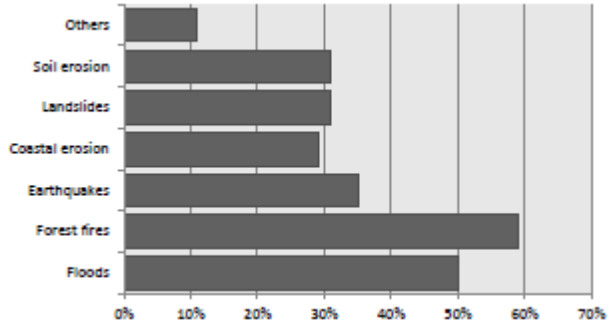

Figure 2 – Hazards considered by respondents
Source: Survey

3.3 PORTUGUESE (MUNICIPAL) RISK GOVERNANCE PROFILE

The first three questions in the survey assess how responsibility for risk management is distributed among government stakeholders at different levels (local, regional, national). The first question, addresses the "clear, well-specified and comprehensible national policy framework for risk-related issues", has an average score of 1.95 and can be classified as a weak political framework (Table 2).

1 Weak national policy framework	2	3	4 Strong national policy framework	Average
27,71% 23	49,40% 41	22,89% 19	0,00% 0	1,95

Table 2 – Survey results for risk governance key characteristic 1
Source: Survey

The second question assesses the “role of regional institutions in the implementation of national policies”, and registers an average of 3.0 (Table 3). Although there is no regional administrative level in Portugal (apart the autonomous regions), this assessment reflects the proximity and functions in the risk management and spatial planning by the deconcentrated services of the State, such as the departments of nature conservation and forests, administrations of river basins, regional emergency operations centers or commissions for regional coordination and development.

1 Weak role for regional institutions	2	3	4 Weak role for regional institutions	Average
4,82% 4	21,69% 18	42,17% 35	31,33% 26	3,00

Table 3 - Survey results for risk governance key characteristic 2
Source: Survey

Regarding the role of municipalities, the average score of 3.12 indicates the strong role of the municipal level in the response and prevention strategies in major disasters or catastrophes (Table 4). Municipalities in Portugal have strong responsibilities in the emergency response component. They are responsible for civil protection in their territory and in the prevention component, they have a major responsibility in the area of spatial planning.

1 Weak local\municipal role	2	3	4 Strong local\municipal role	Average
7,23% 6	16,87% 14	32,53% 27	43,37% 36	3,12

Table 4 - Survey results for risk governance key characteristic 3
Source: Survey

The risk individualization question assesses the responsibility on those at risk to protect themselves. The average of 2.94 reflects the expectation of the involvement of people and\or companies in their self-protection. However, the results show a high variability around the mean, which may reveal the primary role of the Central State and other entities involved in the activities related with emergency response and risk reduction (Table 5).

1 Minor responsibility on those at risk to protect themselves.	2	3	4 Minor responsibility on those at risk to protect themselves.	Average
8,43% 7	26,51% 22	27,71% 23	37,35% 31	2,94

Table 5 - Survey results for risk governance key characteristic 4
Source: Survey

The culture of participation\involvement for the different stakeholders in the risk decision-making process presents a high percentage (50%) of responses revealing a low participation culture and a relatively closed decision-making process (Table 6).

1 Weak culture of *multi-stakeholder participation*	2	3	4 Strong culture of multi-stakeholder participation	Average
32,53% 27	50,60% 42	13,25% 11	3,61% 3	1,88

Table 6 - Survey results for risk governance key characteristic 5
Source: Survey

The risk transfer to insurance companies is characterized by having a weak relationship with segmented and risk-oriented insurance. Despite the high level of responses (37%) corresponding to this assessment, it is possible to verify a set of responses in the opposite direction obtained from the insurance companies who participated in the survey (Table 7). The responses justify the high relationship to segmented and risk-oriented insurance related with the seismic risk. The seismic risk is an example of geographic segmentation for the insurance policies values in the national territory.

1 Low reliance on segmented and marketised insurance	2	3	4 High reliance on segmented and marketised insurance	Average
37,35% 31	30,12% 25	27,71% 23	4,82% 4	2,00

Table 7 - Survey results for risk governance key characteristic 6
Source: Survey

The public risk communication, presents an average evaluation of 2.04, denoting a significant communication frequency with the public (Table 8).

1 Very little public risk communication	2	3	4 Exensive little public risk communication	Average
28,92% 24	39,76% 33	30,12% 25	1,20% 1	2,04

Table 8 - Survey results for risk governance key characteristic 7
Source: Survey

The existence of resources in the entities responsible for risk management in relation to the associated performance presents a high percentage of responses (59%), reflecting an imbalance between the institutions available resources and effectiveness in the development of their competencies (Table 9).

1 Inbalance between governance tasks and available resources	2	3	4 Good balance between governance tasks and available resources	Average
20,48% 17	59,04% 49	20,48% 17	0,00% 0	2,00

Table 9 - Survey results for risk governance key characteristic 8
Source: Survey

4 CONCLUSIONS

Based on the survey results, Figure 3 illustrates the national risk governance profile for hazards with direct intervention in spatial planning. The result of this profile has a bias, associated with the fact that the sample had a large number of responses from local authorities. This high number of responses is due to the fact that the National Association of Portuguese Municipalities has been requested to collaborate and the questionnaire has been redistributed to all municipalities, and for this reason the analysis must consider this trend.

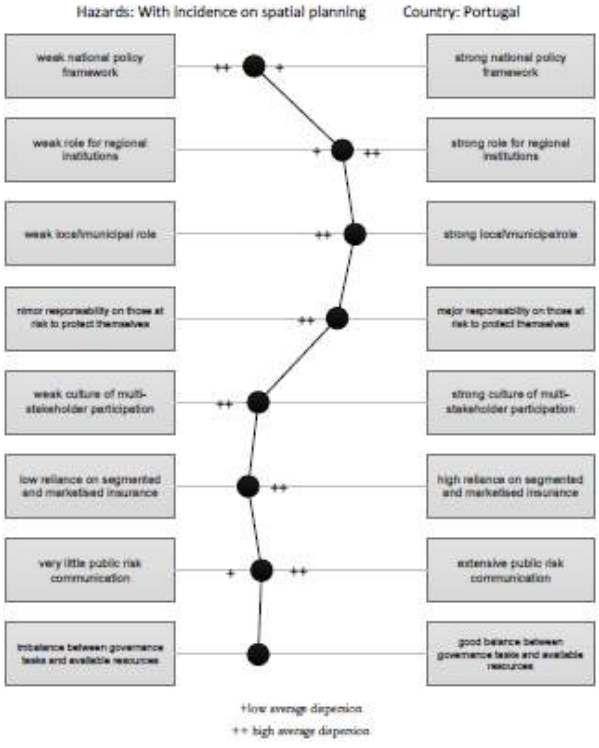

Figure 3 – Risk governance profile

In this schematic representation of risk governance, it's possible to observe the weak evaluation of the political and legislative framework at the national level, which is explained by the legislative dispersion in the risks domain and in a thematic segmentation of risk management. Regarding this evaluation and the lack of a formal regional administrative level (with the exception of the Autonomous Regions of Madeira and the Azores), the centralizing character of the State is confirmed through the evaluation of the deconcentrated services in the implementation of national policies, since they implement the State's governance approach and thereby segment geographically the state's public policies. The preventive component of risk management has a strong a municipal responsibility, while the functions related with the response component are associated to the Central State (eg medical emergency, security, civil protection). Related with risk management, the main functions of the Central State can be summarized in: the provision of scientific information on hazards (eg LNEC, LNEG), monitoring and safety of the main national equipment's and infrastructures (eg REFER, IP, LNEC), providing warnings and alerts (eg IPMA, ANPC), providing response when the municipal level response capacity is exceeded (eg ANPC), development of emergency and spatial plans (eg CCDR, DGT, ANPC) and giving financial support to municipalities and local entities through the state budget and European funds.

The risk preventive component presents a significant importance at municipal level. This importance is related with municipal spatial planning attributions. In the area of civil protection, the Mayor is responsible for the municipal civil protection policy, to trigger, on occurrence of a major accident or catastrophe, the civil protection actions of prevention, assistance and rehabilitation as well as to promote the elaboration of the municipal emergency plan, which defines the guidelines regarding the way the various agencies, services and structures involved in civil protection operations work. Regarding risk individualization, the risk governance profile shows the expectation of involving people and companies in their protection. The multi-stakeholder participation and participatory involvement of the actors involved in risk management is one of the aspects shown by the profile that has a greater consensus due to the weak participation and involvement of the different actors. The risk transfer assessment obtained in the risk governance profile show a weak relation between insurance and risk zoning, although this assessment is not corroborated by insurers, in particular the seismic hazard. The communication of public entities with the population on issues related to hazards\risks is characterized by being infrequent and limited. The last key feature of the governance profile concerns the existence of resources in the entities\agents responsible for risk management, and showed the underfunding of entities and an ineffective performance.

The importance of the risk governance profile for Portugal comes from the possibility of identification, evaluation, management and communication of risk. It can allow in the development of a decision support system (DSS), to identify the different actors, their relationships and priorities in the decision-making component on the transformation of land use, integrating the component of natural and technological risks analysis (Mileu, 2016). In this case, it showed the high interest of the local and central administration as actors in the decision-making process, despite the relationship between the two that can be sometimes classified as ambivalent.

BIBLIOGRAPHIC REFERENCES

Amaro, A. (2009). O socorro em Portugal: Organização, formação e cultura de segurança nos corpos de bombeiros, no quadro da Protecção Civil, PhD thesis in Human Geography , Faculdade de Letras, University of Porto, Porto.

Mileu, N. (2016). Sistema de Apoio à Decisão na Gestão do Risco à Escala Municipal, PhD thesis in Geography – Geographical Information Science, Universidade de Lisboa, Lisbon.

Walker, G.; Tweed, F. & Whittle, R. (2013). A framework for profiling the characteristics of risk governance in natural hazard contexts, Natural Hazards and Earth System Sciences, Discuss., 1, pp. 2207–2229. Disponível em: www.nat-hazards-earth-syst-sci-discuss.net/1/2207/2013/.

Walker, G; Whittle, R; Medd, W & Watson, N (2010). Risk Governance and Natural Hazards. CapHaz-Net WP2 Report, Lancaster Environment Centre, Lancaster University: Lancaster (url: http://caphaz-net.org/outcomes-results/CapHaz-Net_WP2_Risk-Governance.pdf).

Westen, C.J. van; Alkema, D.; Damen, M.; Kerle, N. & Kingma, N. (2011). Multi-hazard risk Assessment, Distance education course, Guide book, United Nations University – ITC School on Disaster Geoinformation Management (UNU-ITC DGIM).