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# Evolution of disaster relief law under multiple transformations: Progressive learning or walking in a circle?



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# ABSTRACT

The aim of this paper is to examine the association between double-loop disaster learning and transformations of political systems. The particular question is how disasters increase the rapidity and complexity, with which the transforming regimes face the unsuitability and inadequacy of the past forms and processes of disaster governance. The centennial evolution of the disaster relief law at a country scale (Czech Republic, resp. Czechoslovakia, 1918-present) is used as an example. The thorough search in digital repository of Czech and Slovak Parliamentary Library was performed to obtain legislative norms and protocols from parliamentary debates, whereas major disasters that induced new laws (1927 flash flood, 1947 drought, 1997 and 2002 floods) were identified from existing databases and from detailed reconstructions of historical disaster politics during critical junctures and institutional transformations, and (ii) the process scheme of disasters politics during approach related to disasters. It is shown that the double-loop learning from disasters and its benefits should be considered as time-dependent and related to permissive and productive conditions that facilitated the adoption of the new disaster relief law (i.e. the learning process). Finally, the implications for the research agenda (historical disaster research) and for disaster policy (evaluation of disaster relief effectiveness) are summarized.

## 1. Introduction

During the past decades, global population and economic growth has exposed societies to the significant risk of social and economic losses due to natural disasters (UNISDR, 2011; MunichRe, 2014; Guha-Sapir, 2015). Increasingly are the international strategies for disaster risk reduction (UNISDR, 2015) being implemented in national legislature and a call for more accurate systems to monitor disaster losses and effectiveness of the disaster risk reduction measures has been raised (e.g. Dilley and Grasso, 2016). Each further natural disaster and its impacts contest societal learning mechanisms and raise new questions regarding the adoption of risk reduction measures. At the same time, as each natural disaster occurs in specific territorial, temporal and institutional settings (Tierney, 2012), these may facilitate or restrict the learning process. This paper deals with a crosscutting issue of the role that political transformations play in institutional learning from disasters.

# 1.1. Learning and disaster risk reduction

Scholarly writing on disaster risk reduction has increasingly

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addressed this issue from the perspective of learning theory. Aims of such efforts were to show how experiences gained from small- and highmagnitude disaster events provide incentives for adoption of new, or modification of existing risk reduction measures. In this respect, different concepts of learning have been developed, while mostly derived from and inspired by the theory of action formulated by Argyris and Schön (1978). In their work, the original distinction was made between single-loop learning which rests in an ability to detect and correct errors in relation to a given set of existing norms and rules instituted in society (cumulative learning sensu Miller, 2002), and double-loop learning depending on being able to take a double look at risk situations by questioning the relevance of operating norms and rules (fundamental learning sensu Miller, 2002), in which assumptions and rules of action concerned with disasters are changed, e.g. by adoption of new norms and measures. The third-order (tripple-loop) learning, which denotes learning process itself (Bateson, 1972; Tossey et al., 2011) has been also suggested, but it has so far found little attention in disaster studies, however.

In the case of long-term perspectives on disaster risk reduction, the analyses of double-loop learning are of major importance as they enable to distinguish among various successive paradigms of risk reductions. At the same time, although it was shown that even the low-magnitude events have a potential to induce the double-loop learning (Voss and Wagner, 2010), it is generally assumed that paradigmatic changes in risk reduction strategies take place after high-magnitude disasters. This was illustrated by examples of both current disaster events (Lei et al., 2014) and historical accounts of disasters (Pfister, 2009).

In this respect, we may emphasize that the feasibility of double-loop learning (i.e. any paradigmatic change) in disaster risk reduction is facilitated by various conditions. Political culture, which denotes possibility of institutional changes, as well as social resilience that influences the severity of disaster's impacts, belong among the major ones. While the rigidities of political and societal systems tend to constrain the changes (cf. Choularton, 2001), the particular occasions for doubleloop learning seem to occur during periods of political instabilities, which are in analyses of political history referred to as critical junctures (Soifer, 2012), and during critical periods of complex societal transformations that may result from or follow after critical junctures.

#### 1.2. Critical junctures and disasters

In terms of disasters, critical junctures are encountered in two ways. First, they can be understood as 'windows of opportunity' for change (sensu Goertz and Levy, 2007), when former political and institutional patterns are being eroded and disrupted (Porfiriev, 2007). Soifer (2012) calls these permissive conditions, which create the circumstances for new ways of thinking, specific proposals of norms, measures and negotiations at various institutional levels (i.e. productive conditions). During political crises or societal transformations, severe disaster impacts that stroke society more explicitly reveal insufficiencies in disaster aid and result in re-evaluations of norms and regulations. Second, disasters may be understood as triggering events that directly induce or speed up political crises. Pelling and Dill (2010) reviewed some studies that investigated disasters as triggers of political change from the perspective of comparative political-economy approach as well as in terms of statistical analyses. The reviewed studies indicated that it is mainly in developing countries where political transformations are frequently associated with high-magnitude disasters. Opportunities for disastertriggered change are frequently associated with repressive regimes and high income inequalities (Drury and Olson, 1998). Democratic regimes and those with strong international relations appear to be less likely to experience political unrest.

Be it political unrest as a precondition for experiencing stronger impacts of disasters, or a disaster as a trigger of political change, the policies and disasters represent two components within a simple causal link. Nevertheless, the limits of this approach rest in representations of political crises and disasters as single instant events. More likely, however, they consist of chains of events and actions that may span since the emergence of permissive conditions toward the end of productive conditions when critical junctions come to their close (Soifer, 2012). However, the end of the productive conditions is hard to define and it is not clear whether it is related only to the re-establishment of political regime or whether these conditions may span toward periods of transformation, during which social contract between state and citizens is re-negotiated. Similarly, disasters often occur in sequences (Voss and Wagner, 2010) or as disasters chains (Li et al., 2010) during one or several consecutive years and with cumulative impacts. In this way, floods or earthquake may induce extent landslide calamities and meteorological drought may result in agricultural and socio-economic drought (Wilhite and Glantz, 1985), for instance. The resulting social impacts exceed the simple sum of partial impacts of these events. This implies that relevant causal links between political unrest during critical junctures and disasters will be more complex and that contextual factors may play a primary role in successive evolutions of disaster risk reductions.

#### 1.3. Research aims

The aim of this paper is to examine the association between doubleloop disaster learning and critical junctures in political systems. Instead of searching for the causal logic between critical junctures and disasters as indicated in the above noted concepts, we approach critical junctures and disasters as two interrelated chains of events and actions that may reinforce each other. Therefore, we consider the question of how disasters increase the rapidity and complexity, with which the societies in emerging or newly established transforming regimes face the unsuitability and inadequacy of the past forms and processes of disaster governance. Furthermore, we explore how disaster politics adopted by emerging and newly established regimes enable to embed and reproduce their position and power. These questions have further implications for learning theories in disaster risk research and policy. This research emphasizes the contextual (external) dimensions of disaster risk reduction. This emphasis is needed, because it has been frequently, yet implicitly, assumed that learning has a progressive character. Such a progress may be obvious in total insured disaster losses shown by international and national agencies, for instance (MunichRe, 2014). On the other hand, we are still far from finding conceptual agreement on effective ways of disaster risk reductions, since political, social and economic conditions are changing rapidly and thus any effort in disaster risk reduction policy seems to be rather time-dependent and reflexive than strictly progressive (Giddens, 2009).

#### 2. Methodological notes

In this paper we use the example of the disaster relief law, which we analyse in terms of its long-term evolution at a country scale of the Czech Republic (former Czechoslovakia) since 1918. The disaster relief law is used as an example as it represents normative and one of the major tools that operationalize the complex social contract negotiated between the public and the state in terms of responsibilities and expectations (Pelling and Dill, 2010). At the same time, it represents a primary tool for social and economic reconstruction following the natural extremes. The selection of the Czech Republic as a case study is rationalized by multiple transformations that the country (Krejčí, 1990; Krejčí and Machonin, 1996) - similarly to other countries in Central and Eastern Europe - experienced during the last century (cf. Porfiriev, 2007). After being a part of Habsburg monarchy for centuries, the country emerged as democratic multi-national state after the first world war to experience periods of rapid growth, crises, supression during the second world war, totalitarian communist regime (Krejčí, 1990; Krejčí and Machonin, 1998), and societal and economic transformation in terms of democratisation and economic liberalisation (Dostál, 1998) since 1990s. All of these regime changes were importantly influenced by external factors (see Fig. 1 for overview). Therefore, the case of the Czech Republic offers considerable variability of conditions that provide extensive empirical evidence on the evolution of disaster relief law concerned.

Regarding investigated empirical material, the history of relevant legislation has been excerpted from digital repository of common Czech and Slovak Parliamentary Library (http://www.psp.cz/eknih/index. htm), which includes all legislation norms, proposals and stenographs from the parliament meetings between 1848 and present. All norms that were related to disaster relief law (including norms on taxes, regulations, or executive protocols) were analysed. The attention was paid in particular to political debates preceding the law approvals and the concept of disaster relief (sources and mechanisms of relief). Analyses of high-magnitude disasters that induced the political debate on disaster relief law draws upon existing databases (Guha-Sapir et al., 2015) and time-series of natural extremes in the Czech Republic (e.g., Brázdil et al., 2005) and the reconstruction of the most damaging historical events (e.g. Raška and Brázdil, 2015 and Brázdil et al., 2016).

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