



## Political inequality and local government capacity for Disaster Risk Reduction: Evidence from Mexico



Naxhelli Ruiz-Rivera<sup>a,\*</sup>, Carlos R. Melgarejo-Rodríguez<sup>b,1</sup>

<sup>a</sup> Institute of Geography, National Autonomous University of Mexico, Mexico

<sup>b</sup> Paseo de la Reforma 342-26, Col. Juárez, Cuauhtémoc, 06600 Mexico City, Mexico

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### ABSTRACT

The susceptibility of different territorial units to be affected by natural hazards has been usually associated with the type and intensity of the hazard itself, together with the socio-economic conditions of the population. However, the political conditions that underlie planning and emergency response have been less explored. We argue that the capacity of local governments to reduce and manage risk in decentralised countries varies in influenced by internal political inequalities regarding financial, normative and operative resources. This paper reviews the conceptual links among political inequalities, decentralisation and risk reduction, and applies these categories to a quantitative analysis of the correlation between capacity resources and disaster and emergency declarations issued for hazard-exposed municipalities in Mexico. The evidence shows the extent to which institutional capacities are unequally distributed among municipalities and proves that even in cases with better levels of capacity resources, such resources have not translated into less emergency and disaster declarations.

### 1. Introduction

Risk relates to the probability of serious harm overcoming the resources of a social group and damaging its most valuable assets and development priorities. The susceptibility of the population of different territorial units to be negatively affected by natural hazards is usually associated with the type and intensity of the hazard itself and its interaction with the socio-economic conditions of the local population; the political conditions that underlie planning and emergency response are usually overlooked. Even though risk reduction and civil protection have been progressively recognised as part of any state's priorities, only a minority of works in the field of Disaster Risk Reduction (DRR) have addressed political and institutional capacity for reducing risk.

In spite of the well-established body of literature about decentralisation processes, few studies have focused on the relationship between decentralisation and DRR policies ([41], 15), particularly from a comparative perspective [40]. One of the key gaps here relates to the spatial differences that stem from a decentralised policy scheme, which in the field of DRR includes law and regulations but also diverse administrative procedures and agreements (local laws, codes, provision for natural hazard, planning acts, risk atlases, land use and urban development plans) which vary between provinces and municipalities. Issues of the distribution of financial and normative resources and

coordination among levels of government with different responsibilities have also been overlooked in the risk reduction literature.

In the case of Mexico, several reports have already assessed the outcomes, strategic goals and action priorities related to the Hyogo Framework of Action (HFA) in the country ([29,32,43]). However, in spite of the optimistic view of these reports on the country's advancements in DRR, they fail to recognise the deep inequality in the implementation of such measures in local contexts. Unequal access to funds, varying institutional capacity and outdated legislation are common across subnational units. This is because the ability of governments and civil organisations to prevent risk and deal with disasters and chronic vulnerability depends on wider social and political conditions that include planning capacity, the normative institutional environment, chains of responsibility and penalties for noncompliance with planning regulations. Understanding this inequality between different agents and their resources is crucial to understanding how risk is generated, reproduced and dealt with by the social groups and territories facing risk.

Since 1983 Mexico, like many other countries, has experienced a process of deep progressive political and administrative transformation toward decentralisation. Municipalities, the smallest territorial units of government, are in charge of many areas of public service delivery, expenditure, and social development ([2], 100; [28], 76–77), including

\* Correspondence to: Instituto de Geografía, Circuito de la Investigación Científica s/n, Ciudad Universitaria, Coyoacán, 04510 Mexico City, Mexico.

E-mail addresses: [nruiz@igg.unam.mx](mailto:nruiz@igg.unam.mx) (N. Ruiz-Rivera), [arq.c.melgarejo@gmail.com](mailto:arq.c.melgarejo@gmail.com) (C.R. Melgarejo-Rodríguez).

<sup>1</sup> CTI Consultoría.

urban zoning, the publication and enforcement of by-laws and regulations ([48], 108), and the design and implementation of local civil protection plans.

However, in spite of broad legal and institutional reforms that have encouraged the strengthening of municipal governments, the formal dimension of decentralisation in terms of regulations, functions and economic resources has not necessarily made space for new and more democratic political arrangements. As Moreno [28] points out, formal democracy does not translate directly into better-quality government output, particularly at the local level. It is necessary to challenge the common assumption that the more formally regulated and decentralised any area of public interest is, the better it will work.

This paper compares the basic institutional capacity input of local governments throughout Mexico to identify the political inequalities that influence the differential abilities of local governments to reduce and deal with natural-hazard-related risks. The paper is based on a quantitative enquiry into the current characteristics of Mexican municipalities' hazard exposure and institutional capacity inputs, such as their administrative and normative resources. The municipalities have been grouped into three major categories, metropolitan, urban, and rural, according to their demographic and spatial characteristics, highlighting the extent to which Mexican municipalities are heterogeneous. The research design looks into the political and administrative resources of local governments to explore how they influence specific risk reduction actions.

The article proceeds as follows: first, it describes the role of local governments as part of the National System of Civil Protection (SINAPROC), which is at the core of the country's risk reduction action, and at how this system relies on Mexico's decentralised structure. Then it presents a review of the current debates on institutional capacity, political inequality and risk reduction. The following section discusses the basis of the decentralised natural hazard risk management system in Mexico.

The paper then describes the methodological approach taken, including the features and scales of the data sources and the statistical procedures selected. This leads to the presentation of the results, which are divided into two types of evidence: the first is a descriptive portrayal of the current situation of municipalities in terms of hazard exposure, with several proxies of their institutional capacity inputs, and the second is based on a statistical exploration of the two hypotheses that synthesise the debates addressed in the paper:

**Hypothesis 1.** In 2014, Emergency and Disaster Declarations (EDD) were issued for municipalities whose local governments have fewer capacity inputs for risk management.

**Hypothesis 2.** EDD were issued for municipalities with greater hazard exposure.<sup>2</sup>

These hypotheses seek to identify the extent to which institutional capacity inputs correlates with critical situations in which a declaration of disaster and/or emergency is needed, and the actual association between the number of reported natural hazard events and an emergency or disaster crisis in the municipal context. Such a declaration is the mechanism for obtaining several types of financial support from the federal government from the Natural Disaster Fund (FONDEN) to deal with critical situations linked to natural hazard events. Although requested by provincial government, a declaration is an indirect way of identifying a situation in which municipal government does not have the capacity to deal with the effects of a climatic or geological hazard.

The correlation of EDD and reported natural hazard events is intended to prove whether such EDD are associated with hazard exposure and/or local governments' capacity shortcomings. In the last part of the paper we discuss the results of municipalities' capacity inputs and of

our explorations based on the above hypotheses. We also discuss the scope and limitations of our data sources, as well as the implications of our results for this field of knowledge.

## 2. Decentralisation and risk reduction action in Mexico's municipalities

In the international context, the term DRR refers to a complex series of public actions covering both prospective, preventive and reactive actions in sectors such as health, land use, ecosystem conservation and social development. Despite the wide diversity of these sectors, most policy actions associated with the field of DRR in Mexico have been developed under the concept of 'civil protection'. As a consequence, most DRR responsibilities and duties fall upon civil protection agents such as municipal/provincial emergency committees and firefighter organisations (Ruiz-Rivera and Lucatello, forthcoming). Although DRR involves much more than civil protection (reactive actions that take place in an emergency context to protect the population from serious damage), we consider that it is premature to address DRR actions as a comprehensive field in the country. Both national and local governments have been slowly integrating civil protection actions with other areas such as urban planning, economic development and environmental protection, but this has been a difficult process because all government structures in Mexico are organised by sector. As risk reduction policies are mostly contained in the civil protection sector, priorities and main courses of action in that matter are still contained in the National Programme for Civil Protection, which changes every six-year presidential term.

To understand the conditions under which key DRR actions are carried out by local governments it is important to know that responsibility for Mexico's natural hazard management is divided between multiple agencies under a principle of subsidiarity. The primary government structure that handles the effects of natural hazards is SINAPROC, which is not an agency itself but a coordination mandate between multiple national, provincial and municipal government organisations and several specialized federal agencies such as the National Centre of Disaster Prevention, Mexican Petroleum and the National Water Commission, among others ([32], 72–73; [38], forthcoming). SINAPROC's head is the National Board of Civil Protection (*Consejo Nacional de Protección Civil*), which is a top-down government structure based in the Ministry of Internal Affairs (SEGOB). This office commands specific emergency management actions and the implementation of plans and programmes through different coordination arrangements with provincial and municipal governments ([3], 2–3; [32], 66).

The legal issues around DRR are contained in the General Law of Civil Protection (2012) and its Regulations (2014). Each of Mexico's 32 provinces has its own local Law of Civil Protection, which must align with the General Law. Adjustment of the content of local laws to the most recent national regulation is an ongoing process, and many provincial laws are outdated. In addition to the laws and the National Programme, other relevant normative and operative instruments include provincial risk atlases, hazard-specific provincial emergency plans, municipal emergency plans and municipal risk atlases. None of these are strictly mandatory: their content is operative rather than prescriptive.

Municipal governments are responsible for the initial response to an emergency event through the local civil protection office. This level of government is also in charge of all urban land-use provisions and many public services, particularly water and sanitary services and basic infrastructure. Municipal government is the primary government structure that deals with natural-hazard-related land-use policies as well as with emergency situations. Provincial governments are responsible for integrated emergency planning processes and act as financial, technical and political intermediaries between the federal and local governments.

<sup>2</sup> The year of reference is 2014. Details on our data sources are provided in the methodology section.

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