

Success of Risk Management and Reduction Policies: A Comparative Perspective between Mexico City and Quito¹

Jonathan Menoscal²

jojmenoscalfl@flacso.edu.ec

Abstract

More than 200 million people are affected by disasters that increase in magnitude due to factors such as climate change, but also because of socio-economic conditions of the vulnerable population, thus constituting disaster risk as a developmental challenge for society. From this concern, the public agenda on disaster risk and its impact has expanded over the past 30 years, shifting from a focus on biophysical studies to a more complex systemic vision that considers risk as a social product, i.e., stemming from the threats and vulnerabilities of an exposed society. In this way, disaster risk-related policies have evolved, moving from notions that were focused on responding to an event to processes related to the corrective and prospective management of risk to mitigate and reduce it.

Despite advances in risk knowledge and accompanying policies, the impacts caused by natural events are increasing, especially in the Latin America and the Caribbean region. This is due to various factors such as weak institutional capacity, lack of regulatory frameworks, insufficient planning that considers the territory, and, above all, the poverty conditions of most of its inhabitants, who are pushed towards threatened and informal areas for habitation. Therefore, this research aims to answer the question: What factors determine the outcome (success or failure) of risk management and risk reduction policies? The hypothesis suggests that a greater coordination of state and non-state actors in the design processes of public policies generates instruments that are more coherent with the stated political objectives, thus leading to better territorial planning framed in effective policies to manage and reduce disaster risk. For this purpose, a methodological analytical framework is proposed, including the analysis of public policy for risk management and reduction through the coherence and consistency of the design of its instruments, in relation to the stated objectives, and how governance modes at the time of designing them can be the explanatory factor of their effectiveness. This using the analytical framework of public policy design as a casual mechanism. A comparative method of more similar cases is proposed between Mexico City and Quito.

¹ This is a work in progress and is presented as a preliminary draft for a doctoral thesis. Please do not publish.

² PhD Candidate in Public Policy – Flacso Ecuador

As preliminary results, initially there were policies focused on addressing emergency situations and characterizing threats. Currently, there is a transition towards policies centered on risk governance, as well as characterizing multi-threats in dynamic and complex territorial contexts, where a series of factors interact to make a community more or less vulnerable. Thus, under territorial planning and development policies, as well as policies aimed at addressing root causes of risk such as poverty, inequality, lack of access to goods and services, among others, the goal is to achieve effective risk reduction. This is observed with better outcomes in Mexico City, attributed to the coherence and consistency between the objectives and means of its policy, in contrast to Quito, where despite having a consistent regulatory framework and policy instruments, they are not aligned with the stated objectives.

Key words

Policy analysis, policy design, causal mechanism, disaster risk reduction.

Introduction

Disasters affect and impact the well-being and security of millions of people around the world (Fong and Vega 2023, 218). The number of disasters has been increasing over the past decades. Thus in 1970 the number of disasters worldwide averaged 440 per year, increasing in 2000 to 1440, with the peripheral areas of cities in developing countries being significantly more affected than in industrialized countries (Quesada 2022, 1; Ferrero and Gargantini 2003, 76). As a result, disaster risk management and reduction have become a global priority and are on the political agenda of most countries (Fong and Vega 2023, 218).

Around the world, each year more than 200 million people are affected by disasters that are aggravated and increasing in magnitude due to generally threatened and vulnerable social conditions in urban areas, environmental degradation and climate change (UN Habitat III 2015, 3). The number of people exposed to disaster risk in cities in developing countries will more than double by 2050, when the number of people living in urban areas is estimated to exceed 66% (Galasso et al., 2021, 1; Davis 2004, 5-6), i.e. with more than 1.6 billion people (Quesada 2022, 1), tripling the urbanized area from 400,000 km² to 1.2 million km² in this time frame (UN Habitat 2015, 2).

Disasters make visible the structural problems of society, which have not been solved or reversed by the states and the institutions in charge of them. In this way, disasters

are revealing events; on the one hand, they show how societies create risks, and on the other hand, they show how these societies perceive those risks (García 2005, 23). But at the same time, the accelerated urban expansion that will occur over the next 20 years offers a global opportunity to design resilient settlements, reducing risk and generating proper human development (Pelling et al., 2023, 2). Disaster risk and climate change are therefore emerging issues on the public and research agenda, especially in the global south, where these issues are combined with accelerated urban sprawl and population growth (Greiving et al., 2021).

Latin America and the Caribbean (LAC) is one of the regions that is being increasingly affected by different phenomena of growing diversity and intensity, leaving in their wake physical, social, environmental and economic damage, which has a greater impact on poor and vulnerable populations (Quesada 2022, 1). Between 2005 and 2020, disasters in LAC caused more than 240,000 deaths, affecting 57 million people, causing economic losses of around 85 trillion dollars (Pereira and Raju 2020, 222).

The impacts of a disaster, in addition to being the effect of physical and environmental conditions, are given by the level of social organization, showing the "political relations that are reflected territorially" (Siena 2014, 437). In this way, the impact associated with an event can be the trigger for a particular state action. However, due to the scenario in which we live and to address the various problems faced by society, in order to seek solutions and find answers it is necessary to include the greatest number and diversity of actors, recognizing in each of them their roles, rights and duties (Segalla and Escañuela 2021, 114). Along these lines, García (2005, 22) points out that "the political sphere is one of the focal points in the understanding of disaster, since it is a by-product of the type of society and economy that has developed over time". Despite this, the lack of institutional capacity in most countries in the global south to control rapid urban sprawl and informal construction results in the development of settlements in hazard-prone areas, leading to increased disaster risk (Miles, Green and Svekla 2012, 365).

Risk as a public policy issue

Risk management has been on the agenda of governments with greater emphasis since the 1990s, primarily due to the lack of such policy. These policies were mainly focused on the design of public policy for disaster attention based on the experiences obtained from past events, with the objective of establishing lines of action aimed at efficiently distributing state resources and helping the population affected by a calamity situation (Garza 1994, 206-207). In turn, these types of policy were linked to citizen security systems and emphasized the consolidation of civil protection as the institution in charge of responding to emergencies (Vargas 2012, 27). This focus on dealing with disasters once they happen, as opposed to prevention and mitigation policy, has been one of the main problems of risk management (Cardona, 2008, 5).

Despite this, in recent years a preventive approach to disaster risk reduction has taken hold, incorporating debates on how development decisions, exposure and vulnerability can affect the increase in future risks, and how public policy can be designed and implemented to reduce losses and build resilience (UN Habitat III, 2015: 3), i.e., to generate policies focused on integrated risk management (IRM). This change in the focus of policies from preventive to prospective, in turn occurs with a paradigm shift driven by the social sciences, which no longer sees disasters as natural phenomena, but rather frames risks as a social construction, that is, as the result of the "potential impact of various hazards on a vulnerable and exposed society" (Alcántara-Ayala et al., 2019, 3), conditioned by societal perceptions, needs, demands, practices and decisions (Oliver-Smith, Alcántara-Ayala, Burton and Lavell 2017, 469). This approach has been adopted by several countries in Latin America and the Caribbean promoted by multilateral donors such as the IDB, the World Bank and the United Nations (Watanabe 2015).

Since the mid-2000s, IRM has become a complex and systematic process (Alcántara-Ayala et al., 2019; Lavell 2003), which involves the formulation of policies and strategies, as well as the implementation of actions and instruments to reduce and control risk and increase resilience (Narváez, Lavell and Pérez 2009, 34). In this sense,

planning and land use planning are inserted in the debate on IRM as instruments that can help mitigate vulnerabilities and reduce risk under principles and practices of citizen participation (Alcántara-Ayala et al., 2019, 12). In the same timeline, public policies aimed at generating sustainable cities, understood as those that "present a structure and urban fabric of a certain compactness, are socially cohesive, generate spaces for sociability, have a good endowment of green areas and public space, are resilient to disasters, create a territory with proximity to services, favor the meeting of activities and allow the development of community life" (Terraza, Rubio and Vera 2016, 204).

This type of policy seeks to understand the problem of risk and disasters as a development issue, where the transformation of the territory can be a determining factor in the success or failure of efforts to build sustainable cities (Campos et al., 2012, 75). Thus, "disaster risk management is not only about technical issues or understanding of hazards; at the core are institutional and political issues that need to be addressed in order to generate efficient risk reduction actions" (Estacio 2014, 67).

This change of focus in the formulation of policies that involves incorporating climate and risk variables around the world is mainly due to the signing of international frameworks and agreements such as the Paris Agreement, the Hyogo Framework and more recently the New Urban Agenda and the Sendai Framework. Precisely in the latter international instrument, it is made clear that the actions of governments at all levels must be to reduce disaster risk, shifting again the focus from comprehensive management to strengthening risk governance linked to the generation of objectives, plans, strategies and other elements in order to achieve the aforementioned risk reduction, especially by reducing and mitigating vulnerabilities (Micheletti, Pancani and Pisani 2019, 156).

Despite these efforts, it is evident that these policies have failed, making it necessary to analyze in depth why and consider advances in the paradigm of disaster and development (Collins 2018, 487), even more so in contexts such as the global south, where a significant gap is identified in research related to determining the levels of risk

in urban areas and the actions of national and local governments and decision-makers at different scales to reduce risk (Quesada 2022, 2). At the same time, it is essential to highlight the role of the local level in disaster risk reduction (DRR), since understanding the territory facilitates the design of policies, practices, tools and other instruments in a participatory manner.

This problem raises the question: What factors determine the outcome (success or failure) of risk management and risk reduction policies?

The hypothesis is that the greater the articulation of state and non-state actors in the processes of public policy design, the more coherent, congruent, and consistent the policy instruments will be, generating a change in the behavior of individuals, groups, institutions, etc., in order to achieve the expected political objectives. In other words, with multilevel governance or co-governance logics when designing and selecting the mix of policy instruments, policies will be more effective or will have fewer failures.

For the selection of cases, the main capitals of Latin American and Caribbean countries were analyzed, using secondary information to determine cases of minor effectiveness or failure in relation to risk management and reduction policies. Among these cases, Mexico City was selected. For a comparison using the "most similar" method (Peters 2013), the city of Quito was chosen as a counterfactual case of policy failure.

Theoretical framework

Public Policy Analysis

The analysis of public policy emerged as a sub-discipline of political science in the 1950s as a result of Lasswell's proposal who, based on the problems that arose in the United States, determined that there was a policy orientation with a double dimension: "interest in the policy process and in the intelligence needs of this process" (Lasswell 1992, 80). With this shift in orientation, he posits the emergence of policy science as the "set of disciplines concerned with explaining the processes of policy making and implementation, and with locating data and developing interpretations relevant to the policy problems of a given period" (Lasswell 1992, 102). In this way, Lasswell was one

of the first to interpret politics as a phenomenon linked to real-time problem solving (Linder and Peters 1988, 740), and from his contributions, a great deal of research began to focus on analyzing public policy.

As well as the development of the discipline, the interpretation of public policy and the ways of analyzing it have varied over time. In general, public policies are considered as variables in the social, economic and political life of a country; they are seen as an explanatory element of society's problems and a response to the needs of the population (Fontaine 2015, 23).

The field of public policy allows us to have a precise and complete vision of the state that leads us to an effective public administration. This in turn allows us to recognize the institutional weaknesses of the state to solve public problems and consider measures to solve them (Méndez 2020, 59-60), providing models of action appropriate to the characteristics and severity of public problems (Howlett 2019, 15). Along these lines, already in the 1950s it was considered that "a policy is not something that happens once and for all. It is something that is endlessly remade. Making a policy is a process of successive approximations towards some desired objectives which also change in the light of new considerations" (Lindblom, 1959, 86 in Aguilar 1992, 49).

Although there have been changes in the discipline of public policy analysis, and finding a consensus on its definition is still a matter of debate (Méndez 1993), for this research, public policy analysis can be defined as "examining a set of objectives, means and actions defined by the state to partially or totally transform society, as well as their results and effects" (Roth 2014, 28). In this sense, public risk management policy will be analyzed as a dependent variable, and we are interested in understanding factors that determine its effectiveness or failure.

Policy outcome. Effectiveness or failure of public policies

What seems new has already been formulated elsewhere and may or may not have worked. This raises the questions of why it failed or why did it work (Fontaine 2015, 25). These questions began to be asked in the 1970s with studies such as those of Pressman

and Wildavsky (1998) who note the importance of studying the implementation of policies and the often disappointing results of this. These authors warn that:

Policy implementation is determined by the articulation between essential conditions and a subsequent chain of causalities, the complexity of which affects implementation difficulties. Hence, in addition to understanding that the lack of fulfilment of (policy) objectives may be due to faulty implementation, they emphasize that the mismatch between means and ends reveals a direct questioning of the coherence of the original policy design (Córdova 2018, 69).

Thus, the effectiveness of a policy can be defined as the "degree to which it achieves what it set out to do at the beginning of the process; or the impact of this policy, i.e. the effect the policy had on the problem" (Fontaine 2015, 50). Policy effectiveness is a multi-level phenomenon in which process, design and outcome are closely linked (Howlett 2019, 13).

For Méndez (1993), the analysis of public policies in a sense of failure or effectiveness opens the possibility of understanding the nature of the state, in this sense, of making it more effective. For this author, the degree of legitimacy, knowledge and activity form important dimensions of policies, as these are directly related to their effectiveness.

Policy effectiveness is an elusive goal because of the many uncertainties policy makers face in designing policy, as they must think not only about achieving the objectives of the present, but also about the future. Using effectiveness as a criterion for judging policy design implies that the essence of design lies in the articulation of actors and policy options to meet government objectives and that those designs that do this best are the most desirable (Howlett 2019, 12).

Empirically, the effectiveness of policies, or their failure, can be observed in the degree of articulation between the stated policy objectives and the means to achieve them, where it is necessary to analyze not only the policy instruments, but also the interaction between actors, institutions, etc. (Roth 2014).

At this point, we can see the importance of analyzing the design of policies through their instruments, but also the interaction or articulation of actors, that is, the modes of governance that operate when designing and implementing these policies.

Policy Design

Transforming policy objectives into efficient practices is a complex process that has historically failed due to poor designs that have failed to adequately incorporate this complexity into policy formulation (Howlett, Fraser, Mukherjee and Woo 2015, 300). For governments to effectively meet their policy objectives, a focus on policy design studies is proposed. Policy design is understood as the activity conducted by policy actors to improve policy formulation and outcomes by anticipating the consequences of their actions and the possible calibrations or alternatives of their actions (Howlett 2019, 9; Howlett and Lejano 2012, 358), through a combination of models of causality, instrumentation, values, interventions, etc. (Peters and Fontaine 2022, 6).

Unlike other forms of design, as in the exact sciences, public policy design has specific characteristics due to the social nature of policy orientation and modulation, which involves human beings as objects and subjects with values, conflicts and other characteristics. Because of this, policy design seeks to integrate different conceptions of a public problem with different conceptions of the policy instruments or state resources that should be used to solve that problem, and the different values according to which a government evaluates the results pursued by the proposed policy as expected, satisfactory, acceptable, etc. (Peters and Fontaine 2022, 1).

This reorientation reinforces the idea that understanding public problems and linking them to the analysis of public policy design, where the choice of instruments or resources that governments use to meet their objectives in a particular context is considered and questioned (Hoornbeek and Peters 2017, 382; Howlett and Lejano 2012, 359), is useful to expand our knowledge and capacity to produce and develop effective designs for public intervention that meet the objective of solving such public problems rather than generating random actions (Linder and Peters 1984, 257). In turn,

this reorientation towards policy design offers an alternative view of how governments can include different actors in the public policy process (Mintrom and Luetjens 2016). For Mintrom and Luetjens (2016), thinking about policy design has the potential to improve the definition of problems and mechanisms in policy-making processes and, in turn, to help public actors manage and improve policies. Thus, with policy analysis it is possible to improve the effectiveness of the policy-making process as a whole, i.e. by considering the nature and structure of policies from their conception, and thus provide scholars and practitioners with some guidance in understanding the public problems to be addressed and devising solutions to them (Peters and Fontaine 2022, 1).

Thus, policy design studies are associated with the development and implementation of policy instruments, their combinations, the type of instrument whether substantive or procedural, their interactions with other policies, and their change or calibration over time (Howlett 2019, 8; Howlett, Fraser, Mukherjee and Woo 2015, 300). At this point, instruments should be conceived of as tools, techniques or means by which states attempt to achieve their policy objectives to provide effective solutions to collective or public problems (Capano and Howlett 2022, 72; Howlett 2011, 22). Policy instruments are themselves techniques of governance, thus accounting for the state's authority as well as its limitations.

Causal mechanisms for the analysis of public policy design

Mainstreams in the study of policy design and policy instruments focus on aspects of their classification, explaining how and why they are selected, and describing their policy effects, whether success or failure. However, studies generally end at this point. More recently, the "causality" of policy instruments is being thought of through mechanistic perspectives (Capano and Howlett 2022, 79).

A new approach in the discipline of policy design to understand how the public policy process takes place is based on a causality approach (Paz, Córdova and Santelices 2023, 185). This "mechanistic turn" tries to explain in detail the gears and the causal process through the policy outcome was produced, and of which sciences such as law,

economics or political science have not been able to do in depth (Hedström and Ylikoski 2010, 50).

It is generally agreed that mechanisms are analytical constructs that explain observed behavior. Mechanisms are systems with multiple components that interact with each other to produce an outcome. Thus, the mechanistic approach focuses on identifying the causal chain between one or more independent variables and the outcome of the dependent variables (Capano, Howlett and Ramesh 2019, 3-4).

From a mechanistic policy design perspective, one can both understand policy dynamics by paying attention to the abstract factors that produce effects in a specific policy context, as well as have a better understanding of the process of policy-making (Capano, Howlett and Ramesh 2019, 4). This means that causal mechanisms depend on the context or mode of governance in which they are activated, which means that the same mechanism can produce different outcomes. This is key because such a study focuses on one case in depth, which precludes generalization to other cases (Paz, Córdova and Santelices 2023, 184).

Adopting a mechanistic analytical framework of public policy design, public policy can incentivize, constrain or change the behavior of policy receivers through the tools or instruments that function as triggers to achieve desired outcomes (Capano, Howlett and Ramesh 2019, 2).

This analytical framework will improve the ability to analyze policy instruments and programmes that are formulated to predict their impact or implementation for decision-making (Capano, Howlett and Ramesh 2019, 4).

Policy instruments are techniques through governments operate to seek and implement effective solutions to collective or public problems (Capano and Howlett 2022, 72). Instruments do not operate on their own; they must be linked to existing institutions, administrative structures, rules, procedures, and other elements that make them work effectively, or not (Peters and Fontaine 2022, 3).

Generally, both state and non-state actors bring their own principles and priorities, but they also provide resources and political connections that are often useful for

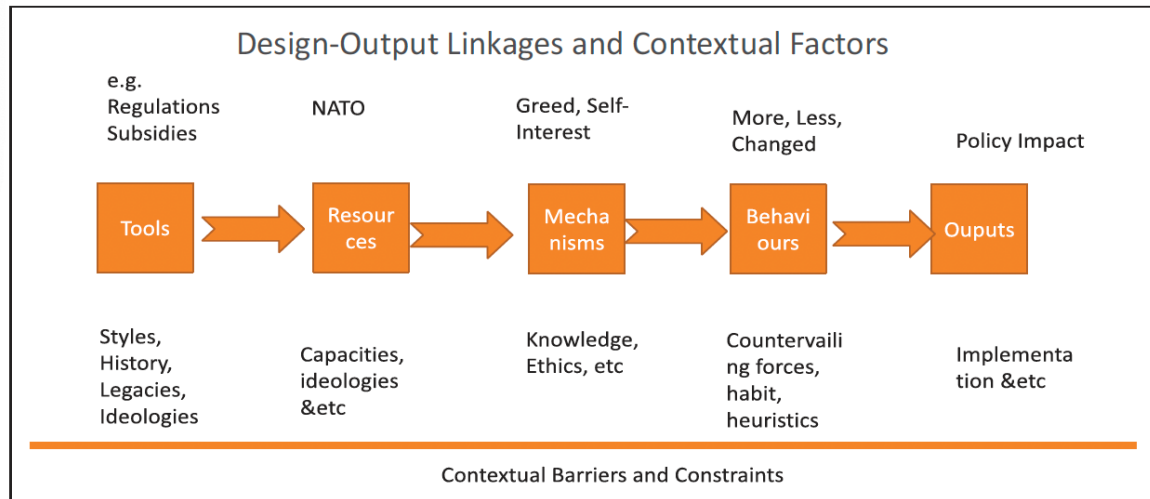
operationalizing policy design. The contribution of non-state actors can range from simple consultation to more complex forms of action such as co-design or implementation of policies and their instruments, which will define the functioning of the causal mechanism (Peters and Fontaine 2022, 4).

The causality perspective allows one to observe the mechanisms activated by an instrument, or mix of instruments, in changing the behavior of potential targets, which may in turn result in policy change. Accordingly, political and social dynamics can be explained through process tracing, where instruments come to be seen as activators of a specific causal mechanism through which individuals' knowledge and behaviors are altered to achieve a specific goal or outcome (Capano and Howlett 2022, 79).

The use of policy instruments is expected to bring about changes in the behavior of certain actors and, in turn, to generate different policy outcomes than with previous instrument mixes. This process includes a complex causal mechanism around the behaviors of policy makers as well as the population with existing instruments, contexts and interventions, and the trigger to generate change in line with the intended objectives in a direction compatible with the government's objectives. In this sense, instruments are means of activation, or triggers, of causal mechanisms. This shift in focus provides an analytical framework that allows us to see the reasons why a policy fails or is effective (Capano and Howlett 2022, 80).

The causal mechanism aims to understand what actually happens in the black box of social processes, i.e., to identify crucial elements in an empirical outcome. Therefore, a causal mechanism will be composed of a trigger, entities and their properties, activities, relationships, and an effect (Hedström and Ylikoski 2010, 51; Paz, Córdova and Santelices 2023, 184).

Figure 1 Causal Chain in Public Policy Design



Source: (Capano y Howlett 2022).

Methodology

Insofar as risk is conceived as a developmental and political issue, and is therefore socially constructed, this research is inscribed in the epistemological position of critical realism, i.e., under this position it is thought that the world is socially and discursively constructed. Direct observation is privileged because, although the structural relations of social phenomena cannot be observed directly, it is crucial to know their explanations. Within the realist approach, causal mechanisms can be generated, but inference is the best way of explanation.

It is proposed to approach the research from a methodology of comparative analysis of n-small or few cases, because, given the limitations to develop an experimental method in social sciences, the comparative method is a relevant alternative to explain social complexity and generate inferences through the systematic observation of the similarities and differences of two or more units of analysis (Morlino 1999; Cai's 2002). Specifically, the research consists of three main parts: the context analysis, where the triggers of the causal chain are determined and where the modes of governance and the interaction between state and non-state actors in charge of designing and selecting the mix of public policy instruments are established. Second, policy instruments and state resources were analyzed under the NATO taxonomy to determine their coherence

and consistency with respect to policy objectives. The third part analyzes whether or not the implementation of these instruments led to a change in the behavior of policy recipients, thus determining the level of effectiveness or failure of these instruments.

Table 1 Policy design: relationships between objectives and means

Policy objectives	Combination of instruments	
	CONSISTENT	INCONSISTENT
COHERENT	Optimo	Ineffective
INCOHERENT	Misdirected	Failed

Source: Córdova (2018), adapted from Howlett and Rayner (2007).

Preliminary results

Mexico City case

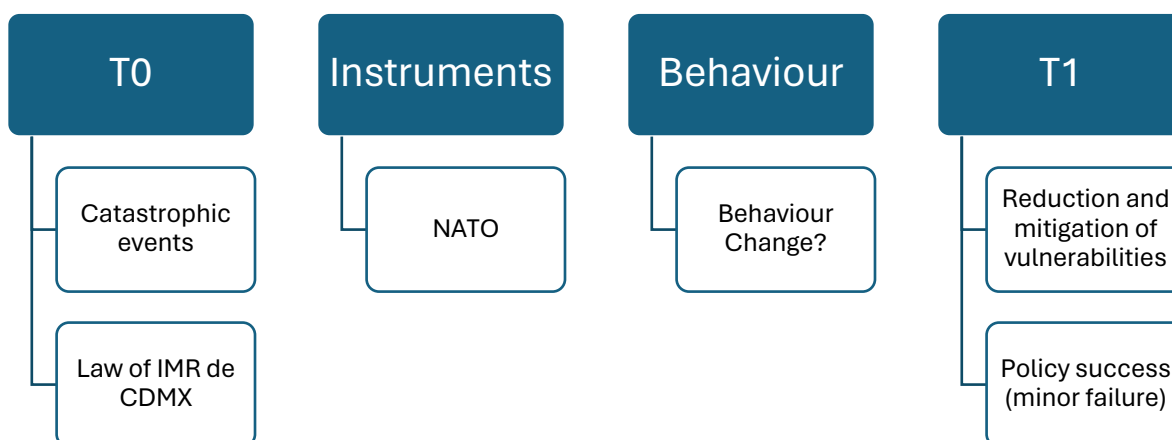
Mexico is recognized worldwide for its efforts to develop policies focused on DRR (Ruiz and Lucatello 2016, 1), where risk governance is taken as the act of decentralizing state functions and granting competencies and a certain degree of autonomy to local governments, especially in terms of urban development focused on DRR and the active articulation of different types of actors (Sandoval and Sarmiento 2018, 49). While this aspect has improved in the country, there are still problems of coordination and communication between different sectors (Moreno et al., 2022, 3). An interesting case is that of Puebla, where work has been carried out directly with citizens on issues related to preparedness and response to mass movements. At the same time, work has been done to improve risk perception and risk culture, showing the importance of involving citizens in DRR (Landeros, Urbina and Alcántara-Ayala 2016, 1531).

A case in point is Mexico City (CDMX), where reversing or mitigating vulnerabilities has been an objective of urban public policies for more than 5 decades, whose success has depended not only on generating good practices, but also on putting good policies into practice (Coulomb and Monterrubio 2009, 1). A broad legal and institutional framework for risk management and reduction is recognized in CDMX, ranging from instruments that include hazard mitigation and prevention, focusing on hazard identification and knowledge to increase resilience. The backbone of the system is the Comprehensive

Risk Management and Civil Protection Law of CDMX of 2019 (Reyes, Torres and Torres 2022, 168-169). Risk reduction policy in CDMX is based on a series of instruments, many of them effective, with an impact on vulnerability factors, especially in terms of diagnosing and monitoring hazards and providing rapid attention to emergencies, which, on several occasions, allowed for timely warning and evacuation measures to be taken (Estrada 2014, 629; Quiroz 2012, 363).

However, in the rest of Mexico there are problems of inter-institutional articulation, which has led to the existence of a fragmented legal and political framework between different levels of government (Moreno et al., 2022, 13; Ruiz and Lucatello 2016, 14). DRR is framed by the General Law on Civil Protection (2012) and its regulation (2014), however, each state has its own law. In turn, there are specific instruments such as atlases, emergency plans, provincial plans for specific hazards, and others, which, although their contents are operational, are not binding (Ruiz and Melgarejo 2017, 39). Evidence shows that Mexico has learned to manage risk situations and has managed to generate an emergency management and response system, which, although it has some problems, works efficiently or has minor flaws. The review of competencies, priorities and financing of actions for the adoption of integrated disaster risk management in government responds to the urgent need to move from a reactive system (which works well) to a preventive system in which public policy and practice go hand in hand with the development of science, technology and engineering (Alcántara-Ayala et al. 2019).

Figure 2 Theoretical causal mechanism in the case of Mexico City



Quito case

In Ecuador, thinking about DRM began in 2008 with the institutional change brought about by the new Constitution. Risk management in Ecuador is a cross-cutting policy for the entire public and private sector that forms part of development and planning plans at different territorial scales. At the same time, risk management has been decentralized and several instruments have been generated that go beyond planning. Similarly, there is a "growing interest in risk governance as a way to gain efficiency in risk management" (Ochoa 2014, 27). Despite important advances, beyond the process of strengthening the public sector and political and economic progress, it has not been possible to overcome the country's structural problems, which in turn can increase risk, such as poverty, for example. In this way, it is evident in the Ecuadorian case that changes in governance structures, as well as the decentralization process, make visible the disparity between municipalities and their capacities to cope with disaster risk (Greiving et al., 2021,17).

Since the new Constitution, a series of laws and plans have been published, such as the Organic Code of Planning and Public Finance, the Organic Code of Territorial Organization, Autonomy and Decentralization, the Organic Law of Land Use and Management, among others, focused on the decentralization of competences, including local territorial planning and the DRR. The main instruments at the local level that have been generated in this regard are the Development and Land Management

Plans and the Land Use and Management Plans, which, since the Manabí earthquake in 2016, must mainstream risk management in their components: diagnosis, proposal and management model (Menoscal and Córdova, 2022).

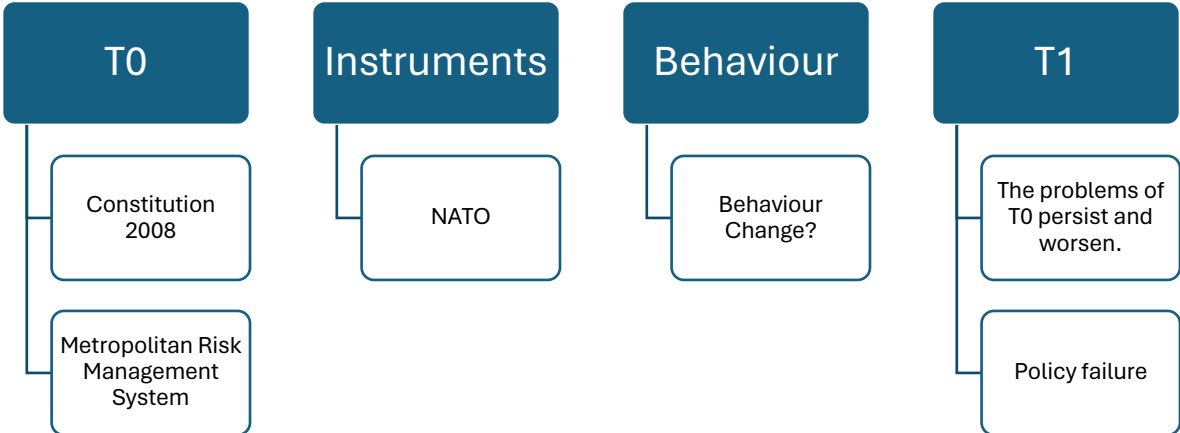
Despite this, several studies have found that in Ecuador the policy instruments generated at the local level fail to meet the objectives for which they were proposed. Thus, although in theory the DRR should be prospective, in practice it continues to be reactive. This could be observed in recent events, such as the Manabí earthquake in 2016 or the floods in highland cities in 2022 and 2023, in which disaster management strategies show similarities with pre-2008 events, to the point that it can be argued that "the current model shares all the characteristics of previous models in terms of gaps in articulation, understanding of roles, absence of control mechanisms and lack of leadership in the bodies responsible for risk management" (Estacio 2017, 43), so it could be assumed that risk management and reduction policies in the Ecuadorian case have failed. After the 2016 earthquake, it was observed that the national government acted with different agendas than local governments, showing a lack of coordination (Greiving et al., 2021, 18; Córdova, Menoscal and Moreno 2023).

In the case of Quito, the Metropolitan Risk Management System is the framework on which risk reduction and a series of complementary policies are based, for example, the regularization of informal settlements and relocation of families in high-risk areas that cannot be mitigated (Rebotier 2016; Pauta 2019). In 2016, the "Quito Responde" programme was presented, which includes the generation of capacities or training, awareness, prevention and response to 6 types of natural hazards and 2 anthropogenic hazards. This plan is aligned with the Sendai Framework in areas related to risk understanding, vulnerability reduction and emergency preparedness (Greiving et al., 2021, 9). Despite the implementation that has been formulated in the city, the combination of its multi-amenities and rapid urban sprawl has meant that risk continues to be reproduced rather than mitigated, resulting in a policy failure (Córdova, Egas and Menoscal 2023; Greiving et al., 2021, 9; Menoscal and Córdova, 2022).

In Ecuador and specifically in Quito, an innovative tool to disseminate information on risk and other urban planning treatments is the so-called Quito Urban Information Centre (Greiving et al., 2021, 8), which together with other geo-portals developed by local government institutions, are useful instruments for decision-making on urban planning in the city.

Despite the large number of instruments that have been designed and selected in the case of Quito, in a context of hierarchical governance, they have not been able to generate a change of behavior in society, which is not included in the policy process, and therefore the failure of risk management and risk reduction policies can be seen.

Figure 3 Theoretical causal mechanism in the case of Quito



Preliminary conclusions

We can trace the paradigm shift and evolution of the concept of disaster risk over recent decades, from initially viewing disasters as natural phenomena to adopting a complex systemic perspective that incorporates social, economic, political, environmental, and other factors as crucial elements for an emergency to escalate into a disaster. This paradigm shift occurred with the integration of sociological approaches into risk analysis.

Consequently, there has been a shift in how national and local governments worldwide approach risk management. Initially focusing on emergency response and hazard assessment within specific territories, policies are now transitioning towards risk governance and the characterization of multi-hazards in dynamic and complex

territorial contexts. In these contexts, various factors interact to either heighten or mitigate a community's vulnerability. Through land use planning and policies aimed at addressing root causes of risk such as poverty and inequality, efforts are made to achieve effective Disaster Risk Reduction (DRR). It's important to note that these approaches and policy frameworks are endorsed by international organizations through various action plans and global agendas, which carry weight at both national and local levels.

However, in many Latin American and Caribbean (LAC) countries and cities, the development of disaster risk management and reduction policies is still in its infancy and often fails to align with the objectives set forth by international organizations. While some efforts are made to promote participatory governance, where various stakeholders are included, this participation is often passive during policy design and implementation, serving more to legitimize public actions or benefit private sectors, thus resulting in ineffective governance. Additionally, despite efforts to address territorial planning and management issues, the root causes of risk remain unaddressed, perpetuating the cycle of risk.

In the specific cases examined, despite similarities in the variables studied and the components of their causal chains, the policy outcomes differ. In Quito, although numerous policy instruments exist, they appear disjointed and fail to collectively achieve their objectives, resulting in inconsistency. Conversely, in Mexico City, while some instruments are ineffective, overall policy outcomes demonstrate minor shortcomings and largely fulfill their objectives, resulting in coherence and consistency. Consequently, a behavioral shift towards disaster risk reduction is observed in Mexico City, whereas in Quito, this shift fails to materialize, leading to the continued reproduction of risk conditions, particularly in unsafe areas of the city.

References

Aguilar Villanueva, Luis. 1992. La hechura de las políticas. Colección Antologías de Política Pública. Miguel Ángel Porrúa, grupo editorial. ISBN: 968-842-319-1

- Alcántara-Ayala., I., Garza, M., López, A., et al. 2019. Gestión integral de riesgo de desastres en México: reflexiones, retos y propuestas de transformación de la política pública desde la academia. *Investigaciones Geográficas*, 98(). DOI: [dx.doi.org/10.14350/rig.59784](https://doi.org/10.14350/rig.59784)
- Caïs, Jordi. 1997. Metodología del análisis comparativo. Cuadernos Metodológicos 21. Madrid: Centro de Investigaciones Sociológicas.
- Campos, Ana., Holm-Nielsen, Niels., Díaz, Carolina., Rubiano, Diana., Costa, Carlos., Ramírez, Fernando., y Dickson, Erik. 2012. Análisis de la gestión del riesgo de desastres en Colombia. Un aporte para la construcción de políticas públicas. Banco Mundial.
- Capano, Gilberto y Howlett, Michael. 2022. Instrumentation in policy design: policy tools – from devices to activators. En: *Research handbook of policy design*. Edward Elgar Publishing. <http://dx.doi.org/10.4337/9781839106606>
- Capano, Gilberto., Howlett, Michael., y Ramesh, M. 2019. Disentangling the mechanistic chain for better policy design. En: *Making Policies Work. First and Second order Mechanisms in Policy Desing*. Edward Elgar Publishing. DOI: 10.4337/9781788118194
- Cardona, O. 2008. Medición de la gestión del riesgo en América Latina. *Revista Internacional Sostenibilidad, Tecnología y Humanismo*, 3.
- Collins, Andrew. 2018. Advancing the Disaster and Development Paradigm. *Int J Disaster Risk Sci*. Springer. Pp 486–495. <https://doi.org/10.1007/s13753-018-0206-5>
- Córdova, Marco. 2018. Gobernanza y políticas públicas. La seguridad ciudadana en Bogotá y Quito. Bogotá: Editorial Universidad del Rosario/Flacso. DOI: [dx.doi.org/10.12804/th9789587841336](https://doi.org/10.12804/th9789587841336)
- Córdova, Marco., Egas, Andrea., y Menoscal, Jonathan. 2023. Asentamientos informales, regularización y riesgo de desastres en el periurbano del Distrito

Metropolitano de Quito. Cuadernos de geografía: Revista Colombiana de Geografía. DOI: <https://doi.org/10.15446/rcdg.v33n1.100275>

Córdova, Marco., Menoscal, Jonathan., y Moreno, Esteban. 2023. Governance and the design of postdisaster policies: a comparative analysis from Latin America and the Caribbean. *Disasters* 43(3), pp 766-786. DOI: 10.1111/disa.12561

Coulomb, René., y Monterrubio, Anavel. 2009. De la reconstrucción post sísmica al programa de vivienda de alto riesgo. Buenas prácticas y desafíos por enfrentar en el centro histórico de la ciudad de México. VIII Encuentro Internacional sobre Manejo y Gestión de Centros Históricos Oficina del Historiador de la Ciudad de La Habana.

Davis, Mike. 2004. Planeta de ciudades - miseria: Involución urbana y proletariado informal. *New Left Review*, N° 26, p. 5-34.

Estacio, Jairo. 2014. Lo político-institucional en la gestión de riesgos: la dimensión de la escala y los niveles de gobierno. En: Serie reflexiones académicas, dimensiones político-institucionales de la gestión de riesgos y vulnerabilidades en los países andinos. SGR, PNUD, ECHO. ISBN: 978-9942-951-33-5

Estrada, Gabriela. 2014. Puesta en práctica de una política de desastres: los instrumentos de la gestión de riesgos en México. *Bulletin de l'Institut français d'études andines*. DOI: 10.4000/bifea.5984

Ferrero, Aurelio., y Gargantini, Daniela. 2003. El riesgo como oportunidad. *Revista INVI*, vol. 18, núm. 47. ISSN: 0718-1299

Fong, Amaly., y Vega, Adán. 2023. Desastres y Cambio Climático: Un cambio de Paradigma. *Revista de Estudios Latinoamericanos sobre Reducción del Riesgo de Desastres REDER*, 7(1), pp 219-227. <https://doi.org/10.55467/reder.v7i1.119>

Fontaine, Guillaume. 2015. El análisis de políticas públicas: Conceptos, teorías y métodos. Arthopos Editorial; Quito: Flacso, Ecuador. ISBN: 978-84-16421-21-3

Galasso, Carmine., McCloskey, John., Pelling, Mark., Hope, Max., J Bean, Christopher., Cremen, Gemma., Guragain, Ramesh., Hancilar, Ufuk., Menoscal, Jonathan., Mwang'a, Keziah., Phillips, Jeremy., Rush, David., y Sinclair, Hugh. 2021. Editorial. Risk-based, Pro-poor Urban Design and Planning for Tomorrow's Cities. *International Journal of Disaster Risk Reduction* 58. DOI: <https://doi.org/10.1016/j.ijdrr.2021.102158>

García, Virginia. 2005. El riesgo como construcción social y la construcción social de riesgos. *Desacatos* no.19. Centro de Investigaciones y Estudios Superiores em Antropología Social. ISSN 2448-5144.

Garza, Mario. 1994. Diseño de una política pública para la prevención de desastres naturales. *Revista de Administración Pública*. Instituto de Investigaciones Jurídicas UNAM.

Greiving, Stefan., Schödl, Leonie., Gaudry, Karl.-Heinz., Quintana, Iris., Prado, Benjamín., Fleischhauer, Mark., Jácome, Myriam., Tobar, Jonathan. 2021. Multi-Risk Assessment and Management—A Comparative Study of the Current State of Affairs in Chile and Ecuador. *Sustainability* 13. <https://doi.org/10.3390/su13031366>

Hedström, Peter., y Ylikoski, Petri. 2010. Causal mechanisms in the social sciences. *Annu. Rev. Sociol* 36. DOI: 10.1146/annurev.soc.012809.102632

Hoornbeek, John., Peters, Guy. 2017. Understanding policy problems: a refinement of past work. *Policy and Society*. Vol. 36, No. 3, pp: 365–384. <https://doi.org/10.1080/14494035.2017.1361631>

Howlett, Michael. 2011. *Designing Public Policies. Principles and Instruments*. Nueva York: Routledge.

[Howlett, Michael. 2019. Understanding the role of policy design in contemporary policy-making. En: Designing public policies, Principles and Instruments. Routledge. ISBN: 978-1-138-29363-2](#)

- Howlett, Michael., Fraser, Simon., Mukherjee, Ishani., y Woo, Jun Jie. 2015. From tools to toolkits in policy design studies: the new design orientation towards policy formulation research. *Policy & Politics*, vol 43, no 2, pp 291-311. <http://dx.doi.org/10.1332/147084414X13992869118596>
- Howlett, Michael., Lejano, Raul. 2012. Tales From the Crypt: The Rise and Fall (and Rebirth?) of Policy Design. *Administration & Society* 45(3) pp: 357–381. DOI: 10.1177/0095399712459725
- Lavell, Allan. 2003. La gestión local del riesgo: nociones y precisiones en torno al concepto y la práctica. *La gestión local del riesgo: Nociones y precisiones en torno al concepto y la práctica*. Centro de Coordinación para la Prevención de los Desastres Naturales en América Central (CEPRENAC); PNUD.
- Lasswell, Harold. 1992. La orientación hacia las políticas. en: Aguilar V., L. F., (ed.), *El estudio de las políticas públicas*, Miguel Ángel Porrúa, México, pp. 79-117
- Landeros, Karina., Urbina, Javier., y Alcántara-Ayala, Irasema. 2016. The good, the bad and the ugly: on the interactions among experience, exposure and commitment with reference to landslide risk perception in México. *Nat Hazards* 80, pp 1515–1537. DOI: 10.1007/s11069-015-2037-7
- Linder, Stephen., Peters, Guy. 1988. The analysis of design or the design of analysis?. *Policy Studies Review*, Summer 1988. Vol. 7, No. 4, pp. 738-750
- Méndez, José Luis. 1993. La política pública como variable dependiente: Hacia un análisis más integral de las políticas públicas. *Foro internacional*, vol. 33, núm. 1.
- Méndez, José Luis. 2020. *Políticas públicas. Enfoque estratégico para América Latina*. México. Fondo de Cultura Económica, El Colegio de México.
- Menoscal, Jonathan., y Córdova, Marco. 2022. La planificación local y su enfoque de gestión de riesgos en el Ecuador a partir del terremoto de 2016. *Quivera Revista de estudios territoriales*. AÑO 24, 2022-1. ISSN 2594-102X

- Micheletti, S., Pancani, D. y Pisani, E. 2019. Análisis comparativo de la lógica técnico-política de reconstrucción: terremoto incendios forestales en el Maule, Chile. *Revista INVI*, 35(98), 155-183 doi:10.4067/S0718-83582020000100155
- Miles, Scott., Green, Rebekah., y Svekla, Walter. 2012. Disaster risk reduction capacity assessment for precarious settlements in Guatemala City. *Disasters* 36(3), pp 365–381. DOI: 10.1111/j.1467-7717.2011.01267.x
- Mintrom, Michael and Joannah Luetjens. 2018. Design Thinking in Public Policy. In *The Routledge Handbook of Policy Styles*, eds. Howlett, Michael and Jale Tosun, 122-135. London: Routledge.
- Morlino, Leonardo. 1999. Problemas y opciones en la comparación. En *La comparación en las ciencias sociales*, compilado por Giovanni Sartori y Leonardo Morlino, 13-28. Madrid: Alianza Editorial.
- Moreno, Claudia., Roman, Rosa., Canty, Steven., Herrera, Jorge., Teutli, Claudia., Muñiz, Aarón., McField, Melanie., Soto, Melina., do Amaral, Cibele., Paton, Steven.; et al. 2022. Stakeholders' Perceptions of Nature-Based Solutions for Hurricane Risk Reduction Policies in the Mexican Caribbean. *Land* 11,1701. DOI: <https://doi.org/10.3390/land11101701>
- Narváez, L., Lavell, A. y Pérez, G. 2009. *La gestión del riesgo de desastres: Un enfoque basado en procesos*. Lima: Proyecto Apoyo a la Prevención de Desastres en la Comunidad Andina – PREDECAN.
- Ochoa, Emilio. 2014. Algunas reflexiones sobre las dimensiones político-institucionales de la gestión de riesgos en Ecuador. En: *Serie reflexiones académicas, dimensiones político-institucionales de la gestión de riesgos y vulnerabilidades en los países andinos*. SGR, PNUD, ECHO. ISBN: 978-9942-951-33-5
- Oliver-Smith, A., Alcántara-Ayala, I., Burton, I., y Lavell, A. 2017. The social construction of disaster risk: Seeking root causes. *International journal of disaster risk reduction*, 22. 469-474.

- ONU HÁBITAT III. 2015. Las ciudades y la gestión del cambio climático y el riesgo de desastres, Temas Hábitat III. Nueva York.
- Pauta, Fernando. 2019. ¿Son técnicamente viables los planes de uso y gestión de suelo previstos por la ley ecuatoriana de ordenamiento territorial?. Universidad de Cuenca, Cuenca – Ecuador.
- Paz-Gómez, Diana., Córdova, Marco., y Santelices María Caridad. 2023. Mecanismos causales: una perspectiva metodológica en auge para el estudio de las políticas públicas. Opera, 33 pp 179-201. DOI: <https://doi.org/10.18601/16578651.n33.09>
- Pelling, Mark., Comelli, Thaisa., Córdova, Marco., Kalaycioğlu, Sibel., Menoscal, Jonathan., Upadhyaya, Rachana., y Garschagen, Marrhias. 2023. Normative future visioning for city resilience and development, Climate and Development. DOI: 10.1080/17565529.2023.2223564
- Pereira, Andrés., y Raju, Emmanuel. The Politics of Disaster Risk Governance and Neo-Extractivism in Latin America. Politics and Governance, Volume 8, Issue 4, pp 220–231. DOI: 10.17645/pag.v8i4.3147
- Pressman, Jeffrey y Wildavsky, Aaron. 1998. Implementación. Como grandes expectativas concebidas en Washington se frustran en Oakland. México D.F. Colegio Nacional de ciencias políticas y administración pública. Fondo de cultura económica.
- Peters, Guy. 2013. Strategies for Comparative Research in Political Science. Londres: Palgrave Macmillan.
- Peters, Guy., y Fontaine, Guillaume. 2022. Introduction to the Research Handbook of Policy Design: operationalizing the policy design framework. En Research handbook of policy design. Edward Elgar Publishing. <http://dx.doi.org/10.4337/9781839106606>
- Quesada, Adolfo. 2022. Disaster Risk Assessment of Informal Settlements in the Global South. Sustainability 14. DOI: <https://doi.org/10.3390/su141610261>

- Quiroz, Diana. 2012. Las ciudades y el cambio climático: el caso de la política climática de la Ciudad de México. Estudios democráticos y urbanos, Vol. 28, Núm. 2. Pp. 343-382.
- Rebotier, Julien. 2016. El riesgo y su gestión en el Ecuador. Una mirada de geografía social y política. Quito: Centro de publicaciones Pontificia Universidad Católica del Ecuador.
- Reyes, Octavio., Torres, Paulina., y Torres, Pablo. 2022. Políticas de gestión de riesgos de desastres e inclusión exclusión de asentamientos informales. Una evaluación para la Ciudad de México. Gestión y Análisis de Políticas Públicas. Pp.163-179. <https://doi.org/10.24965/gapp.10963>
- Roth, André-Noël. 2014. Políticas públicas. Formulación, implementación y evaluación. 10a. Edición. Bogotá: Ediciones Aurora.
- Ruiz, Naxhelli., y Lucatello, Simone. 2016. The interplay between climate change and disaster risk reduction policy: evidence from Mexico. Environmental Hazards. DOI: <http://dx.doi.org/10.1080/17477891.2016.1211506>
- Ruiz, Naxhelli., y Melgarejo, Carlos. 2017. Political inequality and local government capacity for Disaster Risk Reduction: Evidence from Mexico. International Journal of Disaster Risk Reduction 24, pp 38-45. DOI: <http://dx.doi.org/10.1016/j.ijdrr.2017.05.024>
- Sandoval, Vicente., y Sarmiento, Juan. 2018. Una mirada desde la gobernanza del riesgo y la resiliencia urbana en América Latina y el Caribe: Los asentamientos informales en la Nueva Agenda Urbana. Revista de Estudios Latinoamericanos sobre Reducción del Riesgo de Desastres REDER, 2(1), pp.38-52. <http://revistareder.com/handle-0719-8477-2018-011>
- Segalla, Valeria., y Escañuela, Virginia. 2021. La gobernanza del riesgo de desastres a nivel organizacional: un análisis desde los gobiernos locales. Studia Politicæ 53. DOI: <http://dx.doi.org/10.22529/sp.2021.53.05>

- Siena, Mariana. 2014. Desastres y vulnerabilidad: un debate que no puede parar. Bulletin de l'Institut français d'études andines 43 (3). DOI: 10.4000/bifea.5900
- Terraza, Horacio., Rubio, Daniel y Vera Felipe. 2016. De ciudades emergentes a ciudades sostenibles. Comprendiendo y proyectando las metrópolis del siglo XXI. Banco Interamericano de Desarrollo BID.
- Vargas, Jorge. 2012. Políticas públicas para la reducción de la vulnerabilidad frente a los desastres naturales y socio-naturales. Serie Medio Ambiente y Desarrollo 50. Santiago: CEPAL. <http://archivo.cepal.org/pdfs/2002/S2002612.pdf>
- Watanabe, Max. 2015. Gestión del riesgo de desastres en ciudades de América Latina. Apuntes de InvestigAcción N° 4