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The strange case of earthquake risk mitigation in Istanbul

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Abstract

As an aspiring global city, Istanbul is at the crossroads of capital, political struggle, and socioeconomic transformation. Unfortunately, Istanbul is also at the crossroads of major active fault lines. This paper analyzes earthquake risk mitigation planning for the megacity since the last big seismic catastrophe of the Marmara Earthquakes in 1999 that hit the region, including Istanbul. We use the concept of riskscape to explore the political and technocratic construction of seismic risk and how this implies different experiences of risk to investment portfolios, the state, and the ordinary people living in the city. Our empirical analyses focus on the “Istanbul Seismic Risk Mitigation and Emergency Preparedness Project” (ISMEP), launched as a World Bank project in 2005 and still ongoing as of 2020. We argue that the ISMEP project epitomizes the “strange case” of earthquake risk mitigation in Istanbul due to its organizational complexity, financial expansion over its lifetime, and progression as a megaproject sponsored by international development funding despite its contraction in institutional targets. Our findings suggest that this centralized and non-transparent earthquake risk mitigation approach in Istanbul creates a fragmented riskscape for the megacity. The earthquake risk continues to threaten millions of inhabitants’ lives and livelihoods while making room for speculative real estate development.

Keywords: riskscape, risk mitigation, megaproject, earthquake, Istanbul, international development funding, disaster planning

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Introduction: Urban riskscapes

Istanbul’s urban politics is never short of socioeconomic and political conflict over the use of urban space. Numerous empirical studies focus on how large-scale urban transformation projects are reshaping the city’s economic and physical landscape in the last decade. These studies often use neoliberal urbanism as the overarching theoretical framework to explain

the city's growth and to explore community responses to Istanbul's transformation around real estate capital interests (Öz and Eder 2018, Unsal 2016, Kuyumlu 2013, Lovering and Turkmen 2011, Türkün 2011, Kuyucu and Unsal 2010, Candan and Kolluoglu 2008, Genis 2007). However, the literature remains impassive towards the effect of risk mitigation on city planning and the changes it triggers for Istanbul's "riskscape." This paper shows how the planning response to mitigate Istanbul's earthquake risk has diverged from its target and not fulfilled its promise despite the institutional and financial resources invested. We argue that the risk mitigation claim sits at the core of the aspiring global city's massive physical and socioeconomic transformation in the last two decades. This transformation has been shaped around dramatically different experiences of risk for investment portfolios, image of a global city, and for ordinary people making the city.

Istanbul's earthquake risk primarily stems from its location: the city stands on major active fault lines. However, the city's vulnerability to a seismic event is far from being solely determined by where it stands on the earth's surface. Instead, the risk for Istanbul is multidimensional, determined by an interplay between where the city stands politically and economically concerning the national and the global flows of capital, people, and commodities, and how the city's social organization manages this positioning practically and institutionally. To deal with the complexity of risk, we borrow the "riskscape" concept from geography literature to connect the perspectives on *risk*, *space*, and *practice* (Müller-Mahn and Everts 2013). Riskscape provides "a theoretical and analytical tool that combines temporal-spatial dimensions of risk, social practices, and the potential tensions arising from interrelated or overlapping riskscales" (Müller-Mahn et al. 2018, 209). The concept of riskscales also provides a spatial perspective to demonstrate that risks do not exist in isolation from one another (Neisser and Müller-Mahn 2018). As an analytical strategy, riskscales keeps the "real and constructionist nature of risk in view", which helps to conceptualize the social, spatial, and temporal hierarchies/priorities arising in the governance of risk and risk mitigation (Everts and Müller 2020, 3-4).

In this paper, we interpret riskscape as a *process* through which the risk attributed to a spatial unit (neighborhood, city, region) is identified, calculated, articulated, acted upon, and communicated within society. Therefore, riskscape is not a fixed, static, or unique state; instead it is dynamic, continuously negotiated, reshaped, and takes multiplicity of forms (Müller-Mahn et al. 2018). This interpretation of riskscape also resonates with the "risk society" theory, which is "a systematic way of dealing with hazards and insecurities induced and introduced by modernization itself" (Beck 1992, 21). "Debating, preventing, and managing risks" intensively occupy the risk society, as the consequences of development become its own theme (Beck 2006, 332; Giddens and Pierson 1998, 198; Beck 1992, 19). In the risk society, the political struggle is about how to distribute socially produced risks among different groups as a prerequisite of wealth distribution (Giddens and Pierson 1998, 197).

The idea of riskscape is an analytical tool that informs research on the governance of risk in the risk society through overlapping, contested, or conflicting processes of knowledge and expertise that distributes the risks and shapes the space. Blok (2016) builds on the idea of overlapping scales of riskscapes in his study on climate change adaptation in the city of Surat, India. He identifies the contested politics of expertise in the making of risk mitigation policy that leads to the development of alternative riskscapes, one that is constructed by the technical elite and one by the civil-professional publics' counter expertise. Blok's analysis highlights the multiplicity of and sometimes overlapping riskscapes in the city. City riskscape emerges as a process as the material and sociopolitical elements of the city meet and interact. Therefore, studying the process that constructs the riskscapes enables us to explore the role and the power of anticipation in the governance of risk in the urban context.

Risk is inherently about the anticipation of the realization of undesirable events at some future point in time. The state-sponsored professional efforts to anticipate, by identifying, modeling, and preparing for risks engenders a big business in and of itself. Anticipation brings a temporal dimension to the construction of the riskscape, and it bears uncertainty (Bobbette 2016, 524). This inherent uncertainty about the timing, scale, and consequences of the "undesirable" events renders the practice of anticipation a political act as well as introducing inevitable informational asymmetries between technocrats and ordinary citizens (Farias 2016, 550). Uncertainty and anticipation lead to both action and collective unease with the future, depending on the actions taken. In this context, society's social and political priority is to prevent the worst instead of attaining the 'good' for society (Beck 1992, 49). This paper poses the following questions to understand a city's riskscape: Which actors are involved in determining the "worst"? What actions are to be taken to avoid the worst? Which of those actions are taken? And, how do these actions align with those anticipated (and by whom)?

The process of technical expertise anticipating and then public sector taking action may either fail to address the collective anxiety of those at risk or transform the source of risk, leading to the transformation of corresponding riskscapes simultaneously. As anticipating turns into action and feeds into the riskscape, a multiplicity of human and non-human relations take part in the process (McFarlane 2011a; McFarlane 2011b, 215; Farias 2011, 370). In this paper, we use the concept of urban riskscape to explore the formation of Istanbul's divided riskscape(s) concerning an anticipated earthquake after a destructive earthquake; how the anticipations shape the planning response to mitigate Istanbul's earthquake risk, and finally, how the risk mitigation strategy shifts Istanbul's riskscape(s). We argue that Istanbul is empirically an extreme case as it has been undergoing massive physical transformation in the last decade, mainly justified with risk mitigation and aspirations to become a global city. Nevertheless, this extreme case sheds light on a developing trend of

collusion between international development capital and governments in the global South to capitalize on uncertainty and risk mitigation to exploit new business opportunities.

Riskscape(s) of Istanbul: aspiring global city's transformation on fault lines

Istanbul is the largest city in Europe. More than 15 million people, approximately one-fifth of Turkey's population, live in Istanbul, and the city is often referred to as the economic capital of Turkey. Istanbul's economic dominance at the national level is also a consequence of the policies that positioned it as a "global city" for decades (Enlil 2011, Genis 2004). The first steps of this transformation date back to the early 1980s, which marks Turkey's economic liberalization and Istanbul's experience with "the shock of rapid integration into transnational networks and markets" like many other emerging global cities from the global South (Keyder 2005, 124). However, policy efforts to position Istanbul as a 'global city' drastically accelerated after the Justice and Development Party (AKP) took the central government office in 2002. AKP complemented its political dominance on Istanbul's local government with mayors representing the same political affiliations in the Metropolitan Municipality from 1994 until the very recent change in office as a result of the municipal elections in 2019 (Aksoy 2012, 97-99). This political setting enabled a new urban coalition between the municipal government and real estate capital with significant administrative, legislative, and financial support from the national government. This new urban regime pushed for a dedicated and comprehensive policy agenda to market Istanbul as a desirable destination for business as an aspiring global city (Erensü and Karaman 2017, 25-26).

This political economic context of Istanbul is crucial for understanding the city's riskscape as it depends heavily on its positioning within its national and global circuits of capital (Mills 2014, 694). The aspirations of developing and marketing Istanbul as a global city transformed urban space into a playground for large-scale infrastructure investments, luxury real estate development, and the production of new spaces of consumption to accommodate the cosmopolitan consumers of a global lifestyle (see Keyder 2005; Sassen 2001). Istanbul experienced a construction boom along with its positioning as a regional management center for many multinational companies. Several regional headquarters were set up in the city due to its locational advantage and proximity to Eastern Europe, the Middle East, North Africa, and Central Asia (Invest in Turkey 2013). "Megaprojects" in transportation, including The Third Bosphorus Bridge, Northern Marmara Highway, and Istanbul's Third International Airport, accompanied this increasing global business interest in the city¹. These multibillion-dollar investments in Istanbul's built environment are developed, delivered, and funded internationally through loans and credit as complex ventures (see Flyvbjerg 2006). Moreover, large-scale urban renewal projects have transformed the city's landscape, as several neighborhoods across Istanbul became

¹ See "Association of Turkish Architects in Private Practice" for details: <http://en.megaprojeleristanbul.com/>

construction sites for real estate consortiums. Alongside this, the national government has been pursuing its urban renewal agenda, which was politically mobilized as a national earthquake risk mitigation strategy (Ay 2019; Adanalı 2013; Kuyucu and Unsal 2010, 1490; Candan and Kolluoglu 2008, 17).

This critical merge of urban renewal and earthquake risk mitigation agendas reached a climax when the parliament enacted Act No. 6306—the “Disaster Law” in popular use—in 2012, shortly after a major earthquake affected eastern Turkey. This act defined the redevelopment of private housing stock as the State’s liability to protect citizens’ lives and property from disasters (Official Gazette 2012). Although this law does not mark the beginning of large-scale urban renewal projects in Istanbul, it certainly generated a new momentum for physical change and fundamentally transformed the policy basis of earthquake risk mitigation targeting the city’s private building stock. Regarding Istanbul’s riskscape, this merger of earthquake risk and urban renewal agendas builds on the devastating experience of the 1999 Marmara Earthquakes, which is a benchmark for the potential loss and disruption the city may face in an anticipated future (Angell 2014, 669-670). Therefore, government officials and private developers generously articulated the threat of an imminent earthquake to push for neighborhood-scale or parcel-based urban renewal while capitalizing on the collective anxiety about the city’s earthquake vulnerability.

However, the State essentially limited its risk mitigation-motivated urban renewal intervention to the provision of a legal basis. It left the financing mainly to market dynamics, i.e., capitalizing on the future value increase in private property and property owners’ assets to pay for redevelopment or access to credit. Therefore, the urban renewal claiming earthquake risk mitigation mandated land rent maximization as the financing mechanism, which inevitably prioritized redevelopment in underinvested inner-city neighborhoods that offered higher than expected returns to real estate investment while dominating the official narrative of earthquake resilience (Erensü and Karaman 2017, 26; Karaman 2013; Lovering and Turkmen 2011; Kuyucu and Unsal 2010). Enabled by state legislation, private developers often push out the established residents by taking advantage of poorly defined property rights and replacing substandard, risk-prone housing for the working class urban poor with luxury condos and mixed-use developments to serve affluent consumers of the aspiring global city. Hence, urban renewal projects under the name of earthquake preparedness have become a significant force in shaping Istanbul’s riskscape through the demolition and reconstruction of several established neighborhoods, displacement, and redistribution of urban rent.

We argue that Istanbul’s massive transformation around earthquake preparedness agenda leads to a dual riskscape by deepening the inequalities in *space* and distribution of *risk* for different groups based on their economic positioning. For the state-enabled capital interests of international finance institutions, real estate business, or property-owners with

tenure security, *space* is primarily a market commodity. It stands for new investment opportunities on mega infrastructure and redevelopment projects. For citizens lacking political and economic capital to invest in the built environment, *space* corresponds to shelter and livelihood in the private sphere and democratic space for congregation in the public sphere. Therefore, for the state-enabled capital interests vested in the earthquake-prone city, the *risk* is primarily financial, and risk mitigation corresponds to eliminating risky assets. In contrast, the *risk* that threatens the population lies primarily in potential loss of lives, livelihood, shelter, and access to public space. In the context of space combined with risk, *practice* emerges as the opportunity for negotiations between state-enabled capital interests and the rest, over access to space and distribution of risks. These negotiations determine whose risks are anticipated, mitigated, and prioritized in a megacity with an outstanding seismic risk profile.

Müller-Mahn et al. (2018, 189) suggest “risk is more than just a concept which helps to rationalize future gains and losses, but also a concept which performatively shapes practice and space.” Therefore, the knowledge of risk and risk mitigation strategies performatively contribute to the construction of the riskscape. In the rest of this paper, we focus on the performativity of risk mitigation in Istanbul. The next section provides a detailed account of the local and international experts-driven risk mitigation plans in the aftermath of the last big seismic catastrophe in 1999. We then focus on Istanbul’s ongoing megaproject “Istanbul Seismic Risk Mitigation and Emergency Preparedness (ISMEP)” to identify the most recent dynamics shaping Istanbul’s riskscape(s). Following the presentation of the three main findings on the “strangeness” of Istanbul’s risk mitigation planning, we discuss these findings to highlight their relevance for Istanbul’s riskscape. Finally, we conclude with implications for future policy directions and further research.

Earthquake risk mitigation plans in the aftermath of the last big catastrophe

Two major earthquakes, the first one on August 17 and the second one on November 12, hit the Marmara region in 1999. The area affected by the earthquakes, at the time, was home to 23% of Turkey’s population, and the economy of the area accounted for 34.7% of the GNP (Pelling et al. 2002). Turkey’s national economy incurred direct economic losses up to 13 billion USD in total, including disruption of the industry, real estate market, and infrastructure (Özerdem and Barakat 2000; DPT 1999). Although the epicenters of these major earthquakes were about 60 km away from Istanbul, the social and economic costs of the 1999 Marmara Earthquakes demonstrated the scale of destruction that the city could face with the “The Expected Big Istanbul Earthquake” [*Beklenen Büyük İstanbul Depremi*]- the popularly used term for the apparently pending rupture of the North Anatolian fault line passing through the Marmara Sea. The unprecedented social and economic destruction in 1999 became a defining moment for shaping Istanbul’s riskscape. The reconstruction efforts

in the form of emergency response provided an institutional framework for a paradigmatic shift from reactive to proactive approaches in planning for disasters in Turkey, particularly in Istanbul (see Dedekorkut-Howes et al. 2020).

A paradigm shift in national planning response to disasters

The destruction of Marmara Earthquakes overlapped with a destabilized national economy due to structural problems in public finance and banking sectors, which eventually led to the 2001 financial crisis (see Akyüz and Boratav 2003). When the Marmara Earthquakes hit Turkey's industrial heartland, international development aid and loans were the only economically viable option for physical reconstruction and economic recovery. The national government agreed with the World Bank for the "Marmara Earthquake Emergency Reconstruction Project" (MEER), co-financed by the European Investment Bank, in a matter of days after the earthquake in August 1999 (World Bank 2007). This reconstruction project aimed "to help restore living conditions in the region (...) affected by the (...) earthquake, support economic recovery and resumption of growth, and *develop an institutional framework for disaster risk mitigation*" (World Bank 2007 iii, emphasis added). This project was predominantly a reactive response to the destruction of the Marmara Earthquakes, and it has a regional focus. However, it marks a turning point for both Turkey's disaster policy but even more so for Istanbul's riskscape. International development experts on disaster response and risk mitigation began formulating a policy basis for Turkey with this project. This turn later revealed itself as the beginning of a paradigmatic shift from "reactive planning" to "proactive planning" for disasters led by international development expertise (IPCU 2010, 5, PUB 2005).

This regional emergency reconstruction project provided the means to reform Turkey's national planning approach to mitigate disaster risk. According to the World Bank, this project was "merely a start [for the paradigmatic shift in Turkey's disaster planning], which provided the foundations for improved ex-ante disaster risk reduction" (World Bank 2007, 12). In this project's final evaluation, the World Bank experts identified building codes and land use plan enforcement as the core of disaster mitigation in Turkey. Current practices were described as a "deeply rooted problem, to be resolved only through new technical standards and regulation" (World Bank 2007, 12). Turkey continued to be the World Bank's client for disaster risk mitigation after the Marmara region emergency reconstruction project. Building on the reconstruction project's experience, the World Bank designed a new earthquake risk mitigation project, this time explicitly for Istanbul: the Istanbul Seismic Risk Mitigation and Emergency Preparedness Project (ISMEP). But before the ISMEP project was launched, two other earthquake risk mitigation plans were developed: one guided by the international development expertise of the Japan International Cooperation Agency (JICA)'s plan for disaster prevention and basic risk mitigation, and the other led by the local academic experts, Istanbul's "earthquake master plan" upon Istanbul Metropolitan Municipality's

request. These two plans provide the technical grounds and points of entry for the ISMEP project; therefore, we investigate these plans to illustrate the transformation in Istanbul's risk mitigation planning scene.

Disaster risk mitigation planning in Istanbul led by international development expertise

While ISMEP was still in a conceptual stage, JICA completed "The Study on A Disaster Prevention/ Mitigation Basic Plan in Istanbul" in 2002 that was commissioned by Turkey's national government. A team of Japan-based private consultants in contract with JICA completed the plan relatively quickly, in 19 months (JICA 2002, 1-2²). JICA's study assessed the disaster vulnerability in Istanbul by compiling seismic micro-zonation maps to identify the vulnerable areas, estimate seismic hazard and damage based on different earthquake scenarios, and recommendations for "earthquake disaster mitigation." JICA's findings were sobering for the Istanbul Metropolitan Municipality. Istanbul's Mayor at the time, Ali Müfit Görtuna, stated:

"We need to take precautions right away. The public sector, the public itself, and particularly the central government in Ankara is not ready. Is Istanbul ready for the earthquake? No!" (Arkitera 2002)

The JICA plan includes detailed information on Turkey's administrative and legal structure relevant to understand the institutional boundaries of disaster mitigation planning at the time. This lengthy account of Turkey's legislation is intended for the international expert audience working within the Turkish context. JICA's plan emphasizes the importance of bottom-up organization structures to coordinate the disaster management and emergency response in case of a disaster, acknowledging that "[the] hierarchical, top-down nature of the [planning] system tends to discourage local initiatives, and it undermines the role of local authorities that must face the affected people" (JICA 2002, 3-101). The plan also makes recommendations on how to involve civil society with disaster mitigation in practice by adopting a more enabling legal framework for civil society organizations, appropriate allocation of responsibility, and raising awareness (JICA 2002, 4-9). The plan emphasizes the necessity of community-based disaster management activities through ensuring transparency and cooperation between public authorities, academics, private sector, and civil society to promote community participation for disaster management in Istanbul (JICA 2002, 5-8). The plan ends with a brief (6 page) final chapter with short-term (retrofitting of major public buildings, lifelines, and infrastructures and campaign to raise public awareness) and medium to long-term recommendations (city-wide master plan for earthquake disaster prevention,

² JICA plan's page numbers are organized according to the sections within the report. The first digit in the page number indicates the section number and the second digit indicates the page number within that particular section.

urban redevelopment with an earthquake risk focus, credit system for earthquake-resistant housing, and institutional system improvement). JICA's plan concludes with a call for local authorities to come up with plans to follow these recommendations (JICA 2002, 11-1 – 11-6). Indeed, the Istanbul Metropolitan Municipality responded to this call and commissioned the “Earthquake Master Plan of Istanbul” that was completed in less than a year.

Istanbul's first (and only) earthquake master plan led by local expertise

The Metropolitan Municipality of Istanbul commissioned the Earthquake Master Plan of Istanbul (EMPI) as Turkey's first master plan developed for earthquake risk mitigation. Twenty-four academics, mainly from the engineering departments of top public universities in Turkey, teamed up to develop the master plan, representing the highest scientific authority on geology and seismology at the national level. Istanbul's earthquake master plan consists of sections that range from a technical comparison of the JICA study's micro-zonation findings with national studies to a detailed evaluation of the existing administrative, legal, and planning structures. Like JICA's plan, the earthquake master plan also includes a “Strategic Plan for Disaster Mitigation in Istanbul” (EMPI 2003, 195), which aims to bring public administration, business, industry, NGOs, and local community together in order to mitigate and manage the urban risks (Balamir 2004).

In a research meeting, the Metropolitan Municipality's Deputy Secretary-General Mesut Pektas refers to the earthquake master plan as “an ambitious and unique master plan for earthquake mitigation that will shape many of [the Metropolitan Municipality's] actions during the next 10-20 years,” and add that the plan provides “a framework for the involvement of the whole society in risk analysis and management” (Pektas 2004, 11). Like JICA's plan, the master plan also provides a detailed account of vulnerable structures and public buildings in need of retrofitting or reconstruction. The master plan builds on the technical account of JICA's plan. However, it takes a further step with concrete recommendations on how to generate funding for risk mitigation, including utilizing international development finance, and how to mobilize community-based organizations as a part of earthquake risk mitigation. The master plan underlines the importance of transparency and accessibility for the general public as essential features in risk mitigation planning (EMPI 2003, 7).

Istanbul's earthquake master plan operationalized the JICA plan's technical expertise by filtering it through local (academic) expertise to design a practical roadmap for implementation. According to both JICA's plan and the master plan, the sub-standard (public and private) building stock developed in times of lax building code enforcement and informal urbanization sits at the core of the city's vulnerability to earthquakes, and a new legislative framework to combine urban development and disaster risk mitigation was essential (JICA 2002, 11-4; EMPI 2003, 7). The master plan took a rather cautious stance on the need for “a popular conviction that whatever hardships are engendered, these burdens

are equitably borne by all stakeholders, and that it is all eventually for the common good” (EMPI 2003, 7). However, the commissioners, as well as the planners involved with the master plan, shared common concerns regarding the plan’s implementation. An academic from the master plan team, Murat Balamir, raised his concerns for the plan:

“To be deliberately reduced to (...) retrofitting of the building stock alone, with the support of the World Bank in this vein, ignoring all economies and opportunities for improving the urban fabric as a whole, and underestimating the contributions of community participation, i.e., reducing the whole operation to a structural engineering exercise rather than comprehensive social engineering” (Balamir 2004, 6).

Similarly, the Istanbul Metropolitan Municipality’s Deputy Secretary-General Mr. Pektas stated his reservations regarding the earthquake master plan’s future in a research meeting:

“Currently, the World Bank is in the process of developing a project for Istanbul. It is expected that the World Bank project for Istanbul take into consideration the approach and reasoning in the Master Plan, and hopefully do not contradict or compete with the projects described therein, and if possible, aim to spread the available resources to the projects described within the plan, generating a more effective overall impact” (Pektas 2004,14)

JICA’s plan and the earthquake master plan represent the combined efforts of the national government and the Istanbul Metropolitan Municipality to adopt proactive measures for disaster risk mitigation planning in Istanbul immediately after the 1999 Earthquakes. Both plans delivered immense – at times overlapping – technical knowledge on seismic and institutional risks threatening Istanbul. Their final reports eventually became a part of the World Bank-led ISMEP project’s knowledge base as the project cites both JICA’s plan and the earthquake master plan repeatedly to justify its massive administrative and financial scale. Although ISMEP project documents claim that the project provides the financial means to operationalize both plans (World Bank 2005a), we show in the next section that ISMEP project exemplifies a fundamentally different agenda for Istanbul’s risk mitigation planning and this has serious consequences for the city’s riskscape; ISMEP separates earthquake risk mitigation for public and private building stock for operational convenience, and it excludes the public in decision-making, organization, and implementation levels. We argue that these two features of ISMEP reinforce the prevailing collective anxiety that accelerates speculative real estate development where earthquake risk becomes a red herring in this process.

Istanbul’s unconventional megaproject for earthquake risk mitigation: ISMEP

Planning activities in the 1999 Marmara earthquakes’ aftermath indicate the ISMEP project did not emerge in a vacuum. Indeed, the Marmara reconstruction project, JICA’s plan for Istanbul, and the earthquake master plan all predate ISMEP and directly or indirectly

contributed to the development of ISMEP. The Marmara reconstruction project opened up the institutional space for a project like ISMEP by introducing disaster risk mitigation as a new field for business partnership between the World Bank and its well-established client, Turkey. JICA's plan stressed the dramatic future consequences of the "Expected Big Istanbul Earthquake" with its detailed earthquake scenarios and the estimated economic costs and casualties. Finally, the master plan identified the "risk sectors" in the city and suggested a comprehensive road map for mitigating the earthquake risk in Istanbul. Interestingly, some academic experts working in the master plan team voiced their concerns about the World Bank's risk mitigation project with an alternative strategy that was already underway, and hoped that it would not hijack the master plan's recommendations (Balamir 2004, Pektas 2004). Nevertheless, ISMEP project dwarfed the planning efforts prior to its official launch and it transformed the city's riskscape while remaining as a black-boxed arrangement not subject to public scrutiny.

ISMEP is an unconventional megaproject. It is a dynamic process that started as a standard World Bank project but transformed into a policy platform operating as a megaproject during its (still ongoing as of 2020) lifetime. Its defining elements, including its budget, scope, and stakeholders, have changed drastically as it has simultaneously transformed Istanbul's riskscape. The Government of Turkey contracted with the World Bank to develop ISMEP as a risk mitigation project tailored for Istanbul, and the project was officially launched in May 2005. According to the World Bank, the project "capitalized well on the opportunity [the awareness of disaster risk raised by the 1999 Marmara earthquake] to encourage a risk reduction project" (World Bank 2018, 4). The "Istanbul Project Coordination Unit (IPCU)" was established under the Governorship of Istanbul to manage the project. The administration of the IPCU consists of centrally appointed bureaucrats that are accountable to the Governor of Istanbul, who is also appointed by the central government. In other words, IPCU is organizationally and politically independent from the locally elected government and its mechanisms.

The project started as an infrastructure and retrofitting project financed by a \$400 million loan from the World Bank and a \$100 million commitment from the Government of Turkey. ISMEP's current budget has reached 2.028 billion Euros as of May 2019, and with the most recent additional funding in December 2019, the current budget is 2.328 billion Euros, which corresponds to almost a six-fold increase (see IPCU 2020b, AIIB 2019). The official project documents available on the project website highlight that ISMEP's budget is approximately equal to the Rio 2016 Olympics budget, a comparison which indicates the megaproject mentality behind Istanbul's risk mitigation planning (IPCU 2016: 2). This tremendous increase in ISMEP's budget was made possible with loans from several international financial institutions, including the European Investment Bank, Council of Europe Development Bank, Islamic Development Bank, German KfW Development Bank, and with the most recent addition of the Asian Infrastructure Investment Bank in December

2019 (AIIB 2019). ISMEP's closing date, which was originally set as 2009, was pushed forward several times. The World Bank's involvement with the ISMEP project officially ended in December 2015, meaning that ISMEP is a "closed project" for the World Bank after a third and final extension, and with five years of extension in total (Ayhan 2015). Although the World Bank's involvement with the project ended after 10 years, the project is still ongoing under the Governorship of Istanbul's project coordination unit with a recently updated closing date of 2021 (IPCU 2019a). In the most recent loan agreement with the Asian Infrastructure Investment Bank to "strengthen about 100 public buildings for earthquake resistance" (AIIB 2019, 2), the end date for the project implementation is stated as June 2025, although ISMEP sources have not officially updated the closing date as of November 2020.

Despite ISMEP's expansion regarding its budget, stakeholders, and implementation period, ISMEP objectives and scope have contracted. The project's initial goal was to reform disaster risk planning in Istanbul **and** reconstruct/retrofit the vulnerable public buildings and private housing stock. This ambitious target corresponds to addressing the institutional and structural weaknesses in governance, allegedly causing the city's physical and social vulnerability (World Bank 2011, 2). Therefore, ISMEP's initial scope consisted of strengthening institutional and technical capacity for emergency response; reducing Istanbul's residential stock's seismic vulnerability (through a private residential retrofitting program and improving the building codes and land use plans' enforcement), and mitigating risk for lifelines and retrofitting critical public facilities (schools, hospitals, and administrative buildings) (World Bank 2003, 1-2). The major change in the project's objectives is the removal of the private residential building stock's retrofitting after the realization of the political and economic costs associated with such a complicated task (World Bank 2018, 42-43). The reason why private housing was dropped from the project is explained in a recent project evaluation document as the central government's reluctance to use "public funds and international financing to effectively subsidize private assets", and the lack of legislation for urban transformation when ISMEP was launched (World Bank 2018, 6-7).

Finally, the project focus became: (1) Retrofitting and reconstruction of public buildings, mainly schools and hospitals, (91.07 % of the total project budget allocated); (2) Establishing an emergency response structure to coordinate rescue and coordination activities in the case of an earthquake and public awareness-raising and training (5.14% of the total project budget allocated), and (3) Pilot projects for building code enforcement in two selected district municipalities (0.28% of the total project budget allocated) (IPCU 2016, 6). Therefore, ISMEP's most prominent activity has been retrofitting and reconstructing public buildings. With ISMEP funds, over 1000 school buildings, and 115 buildings providing health services have been prepared for earthquakes by retrofitting or reconstruction according to the current building standards (IPCU 2020a, IPCU 2019b, 5; Hurriyet 2016). ISMEP sources claim that the project has earthquake-proofed 85% of

schools constructed based on former building safety standards before the 1999 earthquake (IPCU 2019b).

Although it is still an ongoing project, the World Bank promotes ISMEP as a “best practice” and novel proactive disaster mitigation scheme. Also, the World Bank interprets the project coordination unit managing ISMEP as “semi-autonomous” and “functioning at sub-national level” to promote it as an efficient local initiative independent from broader political interests (World Bank 2018, 7). However, the project coordination unit operates directly under the Governorship of Istanbul, which implies that it is only upwardly accountable to the central government, without any downward accountability to Istanbul’s residents or their elected representatives at the municipal level. The central government appoints the project coordination unit’s staff and claims authority over earthquake risk mitigation in Istanbul. Neither the selection of public buildings to be renovated nor the scope and extent of renovations involve local constituents such as inhabitants, school boards, NGOs, or the municipal authorities of Istanbul Metropolitan Municipality or District Municipalities. ISMEP’s operations are coordinated solely through the Governorship of Istanbul, the Ministry of Education for schools, and the Ministry of Health for hospitals. Therefore, the “sub-national” positioning of the project coordination unit and ISMEP is only a geographical indicator, and it does not imply any form of political localization or decentralization of risk mitigation planning in practice. Therefore, the ISMEP’s project coordination unit’s role and positioning epitomize a broader trend of the recentralization of urban planning in Turkey (Ay 2019, Tansel 2018).

What makes Istanbul a “strange case” for risk mitigation?

The two previous sections presented risk mitigation planning in Istanbul in the last two decades. Next, we use the riskscape concept as an analytical tool to discuss the contradictions of Istanbul’s risk mitigation planning and its implications. We identify three “strange” aspects of the risk mitigation planning in Istanbul and discuss each of these points concerning space, risk, and practice.

Complicating the risks with the megaproject design of ISMEP

Both international and national disaster mitigation experts have advised a broad participatory multilevel risk mitigation approach for Istanbul. However, the risk mitigation in Istanbul has escalated into a megaproject with its size, scope, and budget. But ISMEP is not a standard megaproject either. First, it did not start as a megaproject. On the contrary, it was initially presented merely as a tool to operationalize and fund the existing earthquake master plan for Istanbul. ISMEP transformed into a megaproject in the course of its lifetime. For this reason, we cannot talk about cost overruns, which is a common problem in megaprojects (Flyvbjerg 2014). ISMEP project costs did not exceed the initial budget as such. Instead, the

budget gradually increased with the transformation of the project's content over time; with a bigger budget for a more restricted scope. Second, the outcome of ISMEP is not as tangible as a typical megaproject, such as a building, a bridge, or a railway. Instead, ISMEP's outcome, when it is completed, will be mitigating risk for Istanbul, which is rather an obscure and discursive result for a megaproject. We claim these two points that make ISMEP an atypical megaproject intensify its managerial risks compared to a standard one.

Istanbul's 'giant project' ISMEP, as the project documents refer to it, leaves us with the paradoxical feature of Istanbul's riskscape: Using a megaproject as the service delivery model generates new risks for the city. According to Flyvbjerg (2014, 9), "megaprojects are inherently risky due to long planning horizons and complex interfaces." Based on his empirical research on megaproject management around the world, Flyvbjerg identifies the complexity of goals, range of stakeholders involved with often conflicting interests, limited learning and knowledge transfer from other projects, cost overruns and benefit shortfalls, and changing project scope or ambition levels over time as the most common risks associated with megaprojects (Flyvbjerg 2014; 2006). As a megaproject, ISMEP obscures the practice of earthquake preparedness by generating a black box of risk mitigation that sucks up international development funding.

The top-down and expert-driven megaproject of ISMEP corresponds to a negotiation process between the international funding organizations and the national government. Although the project's spatial focus is Istanbul, the whole project is financed with international borrowing, making it a long-term national liability beyond the megacity's financial capacity. The nationalization of costs is operationally enabled with the centralization of the project management under the Governorship of Istanbul while excluding the local (municipal) governments and constituents from the planning and implementation process. This organizational structure also implies an institutional disconnect between the municipality and its constituency by limiting its capacity to provide a safer urban environment. Thus, assembling a megaproject to mitigate the earthquake risk of Istanbul contradicts its purpose: the megaproject as a service delivery model complicates the city's risk profile by introducing managerial and financial risks³ while excluding the public, which is the essential stakeholder of risk mitigation planning.

Exclusion of the public from the planning process

ISMEP epitomizes a top-down, exclusive, and elitist planning model, and it rules out bottom-up community-based strategies. However, both JICA's plan and the earthquake master plan persistently emphasize the importance of community participation and local mobilization for both risk mitigation and emergency response in case of a disaster (JICA

³The Turkish Lira has sharply depreciated in the last year. When the ISMEP project started in 2005, Euro/Turkish Lira exchange rate was less than 2, whereas in November 2020 the Euro/ Turkish Lira exchange rate is close to 10. In a volatile economy like Turkey, borrowing in foreign currency constitutes high financial risk on its own.

2002, 4-3, 4-5, 5-8- 5-11, 10-26; EMPI 2003, 201, 386, 404, 423, 425). This previous emphasis on the bottom-up organization as a part of risk mitigation disappears from Istanbul's riskscape with the ISMEP project. ISMEP becomes a means and an end in itself to disseminate policy knowledge on earthquake preparedness exclusively amongst international development expertise. This undemocratic feature of ISMEP, we argue, undermines its potential to make the most out of the billions of Euros and Dollars invested in risk mitigation in Istanbul.

The lack of public inclusion in Istanbul's risk mitigation planning also leads to endless public questioning whether Istanbul is ready for the "The Expected Big Istanbul Earthquake" or not. Despite the scale, size, and billions of Euros funneled into ISMEP, the project has minimal public visibility. We find the limited publicity of a project that claims to be "preparing Istanbul for the next big earthquake" particularly *strange*. The media coverage on Istanbul's earthquake risk consistently proposes the question, "Is Istanbul ready for "The Big Earthquake?" especially when an earthquake hits Istanbul or somewhere else in Turkey, or to provide political support the central government's national urban renewal agenda (see Cumhuriyet 2019, Hurriyet 2018, Haberturk 2016, Cumhuriyet 2014). The implicit, or sometimes the straightforward answer is "No, Istanbul is not ready" (also see TMMOB 2016). Indeed, in an interview broadcasted live on national TV in February 2019, President Erdogan⁴ was asked whether Istanbul is ready for "The Expected Big Earthquake", and he responded:

"... The informal settlements are threatening. These problems exist in Istanbul's risk-prone areas. (...) It is not clear what would be the cost of this when the Big Earthquake hits. I am worried about this; I am scared." (DHA 2019)

Ordinary people of Istanbul largely remain uninformed about ISMEP's risk mitigation activities on the ground. The media coverage of ISMEP is limited, let alone any questioning of the performance or the project's efficacy in reducing Istanbul's vulnerability to earthquakes. Also, no independent research has been conducted on the project. The only peer-reviewed article mentioning the ISMEP project is a single line inaccurately referring to it as a "local initiative" (Elicin 2014, 153). Most importantly, ISMEP's lack of visibility contributes to the collective anxiety about the city's earthquake vulnerability. A better-informed public about the extent to which ISMEP is preparing Istanbul for future earthquakes would help to mitigate both the collective anxiety and the real estate speculation that enables profit-oriented urban renewal projects across the city under the name of earthquake preparedness.

⁴ President Erdogan has a symbolic importance for issues related to planning in Istanbul. His first political victory in his career as a politician was to become the Mayor of Istanbul in 1994, which he served for one term. He later became the prime minister, then the president, and with the constitutional changes pushed by his party, he is armed with almost unconstrained authority as a president. See <https://www.nytimes.com/2019/04/02/opinion/erdogan-turkey-elections.html> for further information.

Earthquake vulnerability remains while the riskscape changes

The general public's opinion about why Istanbul is not ready for a major earthquake partly stems from the fluidity of Istanbul's riskscape. Throughout ISMEP's (still ongoing) lifetime, Istanbul's riskscape continues to change as a booming megacity attracting global and national capital investment in real estate and infrastructural development. In other words, the resources needed to reduce the earthquake risk for Istanbul's built environment is dynamically updated with continuous further construction. Although Istanbul's financial, physical, and institutional risks get more complicated, ISMEP is reduced in terms of scope. In practice, the project has boiled down to the reconstruction/retrofitting of selected public buildings, or in the warning words of a scientist from the earthquake master plan team: "a structural engineering exercise" (Balamir 2004, 6).

We do not undermine the importance of retrofitting and reconstructing public buildings. Preparing schools and hospitals is a crucial risk mitigation endeavor to save lives, secure public assets, and have safe buildings that can function as emergency shelters in case of a disaster. However, it does not deliver the structural changes to address the institutional drivers (i.e., lack of building code enforcement) of the built environment's vulnerability to earthquakes in Istanbul, which are also laid out both in JICA's plan and the earthquake master plan. Therefore, ISMEP's operations contradict with the roadmap and recommendations provided by both comprehensive plans predating ISMEP. Both previous plans identify the lack of building code enforcement, land use plan violations, and the informal housing stock as the major threats to the city's earthquake preparedness. More than 90% of ISMEP's budget is invested in retrofitting/ reconstruction of public buildings as the most prominent project activity on the ground for almost a decade, without addressing the structural causes of the built environment's disaster vulnerability.

Discussion: Winners and loser in Istanbul's riskscape(s)

We can connect the three ambiguities of Istanbul's risk mitigation planning (megaproject design, exclusion of the public, and persisting earthquake vulnerability) with the three pillars of riskscape (space, risk, and practice). First, the use of a megaproject model as a service delivery mechanism gives rise to a riskscape that primarily generates financial risks for the State and the funding agencies, where city space becomes a commodity for new investment opportunities for real estate and construction sectors. The megaproject model's planning implications are top-down and expert-driven negotiations between the national government and the international development finance while leaving other stakeholders, including the local government, real estate sector, and ordinary people, outside the planning process. This brings us to the second ambiguity: the lack of public inclusion in risk mitigation planning. With the exclusion of the public from earthquake risk mitigation planning, the use value of space, namely the access to shelter, livelihood, and commons, is undermined. The masses

with limited political or economic capital to profit from the speculative urban redevelopment continue to live with the risks threatening their lives and livelihoods. They continue living and working in the substandard risky built environment. Finally, the political and scientific consensus on the persisting earthquake vulnerability implies that the riskscape of the capital interests and the masses that are separated from the ISMEP project's design ultimately overlap in the aspiring global city. Interestingly, the international financial institutions are the only stakeholder situated outside Istanbul's riskscape because their financial returns from funding the risk mitigation is practically independent of the city's earthquake resilience with the sovereign-backed loans.

Then, who benefits from the ISMEP project and its transformation over the years? On the one hand, the improvement of public buildings' overall quality benefits all residents of Istanbul directly or indirectly, given their immediate functions and potential functions in the case of an earthquake. However, the taxpayers pay for this benefit back in the long run as it is financed with credit and loans in foreign currency. On the other hand, this expansion of public buildings' retrofitting/reconstruction provides a business opportunity for contractors that deliver the construction services. Similarly, the national government benefits from attracting international funding and generates resources for renewing the public building stock to clean its risky assets. Finally, international financial institutions have direct financial benefits as they issue sovereign-backed loans to the Turkish Government. Moreover, ISMEP is already being marketed as "best practice" by involved international development organizations and private consultants despite its unresolved weaknesses related to its accountability (World Bank 2019; Ayhan et al. 2017; ISMEP 2014; World Bank 2014, 12; IDB 2013, 46; World Bank 2010, 16). ISMEP's mobilization as "best practice" beyond Istanbul and Turkey is likely to perpetuate the risks associated with its design in other countries in the future if/when international development experts transfer it to other contexts.

The practical and policy disconnect between risk mitigation in publicly-owned and privately-owned building stock divides Istanbul's riskscape. The partnership between international development expertise and the national government focuses on preparing public buildings for a future earthquake. In contrast, risk mitigation for private housing stock is predominantly left to market dynamics, namely the developers and the property owners, only marginally subsidized by the national government. The transformation occurs when it is economically profitable for developers and affordable for property owners. In this setting, earthquake risk becomes a smokescreen to mobilize government-subsidized bank credits and rent subsidies to property owners for the duration of the redevelopment. Therefore, private housing stock's earthquake risk is mitigated only for the property owners who can afford to pay for it. It is important to note that JICA's plan and the earthquake master plan have already expressed the need for new legislation to merge urban development and disaster risk mitigation in the early 2000s. Hence, leaving private housing stock outside ISMEP's scope is

potentially related to the central government's ambitious nationwide urban renewal agenda that is politically mobilized by disaster preparedness as a justification mechanism for opening up the urban centers, including Istanbul, for profit-oriented redevelopment projects that stimulate the real estate sector. Further research is needed to elaborate on this policy linkage between Turkey's national urban renewal agenda and the earthquake risk mitigation planning as a transnational planning endeavor.

Conclusion

The political act of anticipating earthquake risk in Istanbul has been largely led by the national government, metropolitan municipality's earthquake master plan being the only exception to this trend⁵. The state has appointed national and international technical expertise to predict the "worst" for the society. And, to avoid the worst, the national government has chosen focusing on mitigating the risk for public buildings and infrastructure in partnership with the international development organizations. This study focuses on the last two decades of risk mitigation planning in Istanbul to show that the local political actors and elected representatives have been gradually excluded from the state-led risk mitigation financed by international borrowing. On the contrary, risk mitigation for privately owned buildings, including dwellings of millions of people, is left to the market dynamics, which is only marginally subsidized by the state for those who already have access to credit.

The institutional and organizational structure of risk mitigation in Istanbul, particularly with the megaproject of ISMEP, has created a black box of risk mitigation. The general public is not well informed about the workings and the outputs of Istanbul's "giant project." Despite this fundamental shortcoming of lacking transparency as a disaster risk mitigation project within its national context, ISMEP is already marketed as "best practice" in international development circles for disaster risk mitigation.

We find it quite timely, a good twenty years after the Marmara Earthquakes and right in the aftermath of the Izmir Earthquake in October 2020, to scrutinize the earthquake risk mitigation planning in Istanbul to open up that black box. Based on our analysis, we raise questions for further research to explore the ISMEP project and overall risk mitigation planning in Istanbul: What are the international development organizations' motivations in funding risk mitigation in Istanbul? What is the policy link between the dropping of private housing stock from ISMEP and the national urban renewal policy agenda that was later enacted by the central government? How can risk mitigation planning become more transparent, inclusive, and accountable to the general public? Also, we find it important to

⁵ In the aftermath of the change in Metropolitan Municipality's office in 2019, the municipality has recently become more active in earthquake risk mitigation planning efforts and updated the earthquake and potential loss scenarios for the whole metropolitan area (IBB 2019).

discuss the transferability of policy knowledge in disaster planning accumulated over the years in Istanbul to other cities prone to seismic risk in Turkey, and other national contexts.

This study aims to initiate a debate on the model, organization, and communication of risk mitigation planning in Istanbul by taking the ISMEP project as a point of observation. We, both as researchers and the general public, need to talk about the ISMEP megaproject and what it achieves or fails to achieve for Istanbul's earthquake resilience. This questioning is an essential step to overrule the disconnect between riskscapes for the capital interests and the ordinary citizens in Istanbul, or in any other city, which can be only good for fostering a more democratic planning environment in risk-prone cities.

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