SOCIALLY DIFFERENTIATED URBAN FLOOD GOVERNANCE IN MEXICO:

AMBIGUOUS NEGOTIATIONS AND FRAGMENTED CONTESTATIONS

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Abstract

Cities around the world are developing new ways of governing risks and vulnerabilities. In the new flood-governance measures, technological risk-prevention is linked to programmes of social resilience and cultural adaptation. By focusing on the governance of catastrophic floods in the city of Villahermosa, Mexico, this essay argues that new flood-governance strategies rely on complicated forms of neoliberal governance, in which flood governance is turned into a matter of adaptation and self-responsibilisation, while scant attention is paid to the socio-spatial distribution of vulnerabilities. Based on ethnographic fieldwork in three, socially differentiated neighbourhoods of Villahermosa in 2011–2014, this study demonstrates how flood-governance strategies and the residents' responses to them vary across the city and how the production of flood risk is connected to the uneven production of the urban space. The institutional acts of governing aim to render certain groups of population governable, whilst being unable to eradicate dispersed contestation efforts.

Keywords: cities, contestation, flood, governance, Mexico, neoliberalism, social differentiation

Introduction

Water-related disasters in the form of hurricanes, tropical storms and floods are causing overwhelming human suffering and infrastructure damage in the densely populated cities of the global South. Catastrophic floods, in particular, are a frequent cause of massive devastation. According to the Intergovernmental Panel on Climate Change (IPCC, 2014), the loss of human life and economic assets due to coastal and inland flooding represent two major climate-related risks in rapidly urbanising emerging economies, including Mexico.[1] To mitigate such risks, government and private initiatives in different parts of the global South have established intensive programmes of urban flood governance.

The conventional flood-governance strategies have aimed to protect urban populations from flood disasters through the construction of dams and floodwalls and the diversion of water through canals and dykes. Recently, there has been a shift from such technocentric flood-control measures towards integrated flood-resilience strategies that make people adapt to floods instead of resisting them.[2] By focusing on catastrophic floods in the city of Villahermosa, south-eastern Mexico, this essay argues that the prevalent flood-governance strategies rely on hybrid forms of neoliberal governance, where technological

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[1] IPCC [Intergovernmental Panel on Climate Change], 'Summary for Policymakers', in C.B. Field et al. (eds.), *Climate Change 2014: Impacts, Adaptation, and Vulnerability* (Cambridge: Cambridge University Press, 2014), pp. 1–32. The terms risk, vulnerability and resilience have contextually varied meanings. In this study, environmental risks refer to people's exposure to environmental threats and uncertainties. Vulnerability refers to people's inability to withstand adverse effects from multiple stressors, including everyday uncertainties and catastrophic events. Social resilience refers to people's capacity to adapt to changing conditions and to recover from an environmental disaster. See Hans-Martin Füssel, 'Vulnerability: A Generally Applicable Conceptual Framework for Climate Change Research', *Global Environmental Change* 17: 2 (2007), pp. 155–67.

[2] R.M. Ashley, J. Blaskby, R. Newman, B. Gersonius, A. Poole, G. Lindley, S. Smith, S. Ogden and R. Nowell, 'Learning and Action Alliances to Build Capacity for Flood Resilience', *Journal of Flood Risk Management*, 5: 1 (2012), pp. 14–22; Claudia Pahl-Wostl, Marc Caps, Art Dewulf, Erik Mostert, David Tabora and Tharsi Taillieu, 'Social Learning and Water Resources Management', *Ecology and Society*, 12: 2 (2007).

risk prevention is linked to programmes that promote social resilience and cultural adaptation. Hybrid forms of neoliberal governance refer here to a sort of political rationality and related acts of governing, and modes of creating subjects, where a diversity of government, private and voluntary sectors, together with an active citizenry, engage in governance, through diverse techniques and forms of knowledge.[3]

In contrast to general expectations that the socially oriented flood-governance strategies will improve the procedural quality of governance programmes and facilitate their successful implementation [4], this study calls for a more thorough analysis of the role of civic involvement within the new modes of governance. Without careful consideration of the terms of participation and the power relations involved, it is difficult to understand how the 'conduct of conduct'[5] involved in neoliberal governance plays out in political practice. Based on ethnographic fieldwork carried out in three, socially differentiated neighbourhoods of Villahermosa in 2011–2014, this research focuses on the roles and responsibilities the new procedures of flood governance assign to different groups of residents and the implications of these strategies for local agency. This article addresses the following questions: How do institutional discourses and governing techniques conceive the socio-spatial distribution of risks and vulnerabilities, and what are the opportunities for citizens to negotiate and contest such discourses and acts of governing? How are the subject-positions proposed for different resident groups forged in practice, and how do residents in different city sectors perceive and

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[3] There is huge variation in the way the term 'neoliberalism' is used in contemporary scholarship. As Ferguson, points out, it is important to make an analytical distinction between usage of neoliberalism as 'arts of governing', in the Foucauldian sense, and neoliberalism as a macroeconomic doctrine and class-based ideology. James Ferguson 'The Uses of Neoliberalism', *Antipode*, 41: S1 (2010), pp. 166–84. See also, Neil Brenner, Jamie Peck and Nik Theodore, 'Variegated Neoliberalization: Geographies, Modalities, Pathways', *Global Networks*, 10: 2 (2010), pp. 182–222; Nancy Fraser, *Scales of Justice: Reimagining Political Space in a Globalizing World* (New York: Columbia University Press, 2009).

[4] R.M. Ashley et al., 'Learning and Action Alliances'.

[5] Michel Foucault, *Security, Territory, Population* (London: Palgrave, 2007), p. 193.

challenge the positions ascribed to them?

Compared to the rich research on inequality and social segregation in Latin America[6], urban environmental governance has received less attention.[7] Furthermore, the studies that do exist concentrate on marginal settlements. This study focuses on three socio-economically differentiated sectors of Villahermosa: 1) Tabasco 2000, which is a high-income residential and business-centred area; 2) El Guayabal, which is a middle-income neighbourhood; and 3) Gaviotas Sur, which is a low-income, informal settlement and an ambulatory trade area (Figure 1). As the economic centre of Tabasco and a nucleus of the Mexican oil industry, Villahermosa is inscribed with noticeable socio-spatial differentiation, a characteristic of many Latin American cities. The following analysis demonstrates how rationalities and techniques of flood governance are linked with the residents' differentiated socio-economic position, uneven exposure to environmental risks and vulnerabilities, and differentiated opportunities to cope with and recuperate from flood disasters.

PLEASE, PLACE FIGURE 1 HERE

The shifting socio-political terrains of Southern cities provide a highly relevant arena for analysing the ambiguous procedures of neoliberal governance and their socially

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[6] Teresa P.R. Caldeira, 'From Modernism to Neoliberalism in São Paulo: Reconfiguring the City and its Citizens'. In Andreas Huyssen (ed.), *Other Cities, Other Worlds: Urban Imaginaries in a Globalizing Age* (Durham, NC: Duke University Press, 2008), pp. 51–77; Ryan Centner, 'Microcitizenships: Fractious Forms of Urban Belonging after Argentine Neoliberalism', *International Journal of Urban and Regional Research*, 36: 2 (2012), pp. 336–62; Bryan R. Roberts, 'Moving On and Moving Back: Rethinking Inequality and Migration in the Latin American City', *Journal of Latin American Studies*, 42: 3 (2010), pp. 587–614.

[7] For inspiring analyses on environmental governance in Mexico City, see Adrian Aquilar, 'Peri-Urbanization, Illegal Settlements and Environmental Impact in Mexico City', *Cities,* 25: 3 (2008), pp. 133–45; Jill Wiggle, 'The "Graying" of "Green" Zones: Spatial Governance and Irregular Settlement in Xochimilco, Mexico City', *International Journal of Urban and Regional Research*, 38: 2 (2014), pp. 573–89.

differentiated outcomes.[8] As Pelling notes in his study of Guyana, the technology exists to map environmental risks, build safe houses and design sustainable cities.[9] The problem is rather that prevalent governance structures and power relations often undermine efforts towards more socially just procedures. This is especially true in many Southern cities, where large numbers of people live in substandard settlements with high levels of poverty, while urban elites isolate themselves in gated communities, with exclusive sanitation, health-care and security services.[10] Through an ethnographic analysis of institutional flood-governance strategies and local tactics of reconfiguration and contestation, the following analysis shows how the currently dominant forms of flood governance aim to render certain groups of populations governable, whilst being unable to eradicate dispersed efforts of contestation.

Theoretical approaches: Hybrid governance and inverse governmentality

This study draws upon a theoretical approach of post-Foucauldian governmentality in order to analyse how the institutional strategies of flood governance are socio-spatially differentiated across the city and how the production of flood risk is linked to the socially differentiated production of urban space.[11] According to Foucault, all arts of governing carry,

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[8] Matthew Gandy, 'Landscapes of Disaster: Water, Modernity, and Urban Fragmentation in Mumbai', *Environment and Planning A*, 40: 1 (2008), pp. 108–30.

[9] Mark Pelling, 'Toward a Political Ecology of Urban Environmental Risk: The Case of Guyana', in Karl S. Zimmerer and Thomas J. Bassett (eds.), *Political Ecology: An Integrative Approach to Geography and Environment-Development Studies* (New York: Guilford, 2003), p. 77.

[10] Caldeira, 'From Modernism to Neoliberalism'; Vanessa Watson, 'Seen from the South: Refocusing Urban Planning on the Globe's Central Urban Issues', *Urban Studies* 46: 11 (2009), pp. 2259–75.

[11] Post-Foucauldian govenmentality refers here to recent attempts to renew Foucauldian ideas on regulation and governance to more recent modes of neoliberal governance, as suggested by Fraser, *Scales of Justice*, pp. 116–30. See also Stephen J. Collier, 'Topologies of Power: Foucault's Analysis of Political Government beyond Governmentality''', *Theory, Culture, Society*, 26: 6 (2009), pp. 78–108; Mitchell Dean, *Governmentality: Power and Rule in Modern Society*. 2d ed. (London: Sage, 2010); Nikolas Rose, Pat

implicitly or explicitly, aspirations to direct human conduct towards certain ends.[12] Through multifaceted power/knowledge relations, governance techniques are selectively implemented, interpreted and contested within shifting arenas of politics and power. Post-Foucauldian perspectives on governance offer interesting angles for analysing what authorities of various sorts want to happen, in pursuit of what objectives, and through what strategies and techniques they seek to achieve their aims.[13] Important insights can be gained into socially differentiated impacts of neoliberal governance by examining the positions that multifaceted forms of governance give to different groups of residents living in a socially segregated city, and how the residents' social positions shape their opportunities to act in the face of neoliberal governance.[14] Such an approach provides analytical strategies that transcend the normative assumptions of 'good' and 'bad' governance, as well as the dichotomous view of liberating *versus* repressive techniques of power, characteristic of many policy-oriented approaches to governance.[15]

Drawing upon post-Foucauldian ideas of governmentality, Bogaert offers an inspiring analysis of how the state increases its control over urban territory in Morocco by implementing authoritarian modes of neoliberal governance that intensively regulate informal settlements and their populations.[16] Equally interesting is Nielsen's study on local tactics in

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O'Malley and Mariana Valverde, 'Governmentality', *Annual Review of Law and Social Science*, 2 (2006), pp. 83–103.

[12] Michel Foucault, 'Governmentality', In Paul Rabinow and Nikolas Rose (eds.), *The Essential Foucault: Selections from Essential Works of Foucault 1954–1984* (London: New Press, 2003), pp. 229–45.

[13] Nikolas Rose, (1999) *Powers of Freedom: Reframing Political Thought* (Cambridge: Cambridge University Press, 1999), p. 20.

[14] Brenner, Peck and Theodore, 'Variegated Neoliberalization', Stephen J. Collier, 'Neoliberalism as Big Leviathan, or…? A Response to Wasquant and Hilgers', *Social Anthropology*, 20: 2 (2012), pp.186–95.

[15] Kim Mckee, 'Post-Foucauldian Governmentality: What does it Offer Critical Social Policy Analysis?', *Critical Social Policy*, 29: 3 (2009), pp. 465–86.

[16] Koenraad Bogaert, 'The Problem of Slums: Shifting Methods of Neoliberal Urban Government in Morocco', *Development and Change*, 42: 3 (2011), pp. 709–31.

Mozambique of 'inverse governmentality', which focuses on informal residents' efforts to mimic the state-defined standards of urban planning and reconfigure the dominant forms of urban governance.[17] Inspired by these analyses, this study approaches flood governance in the city of Villahermosa as made up of hybrid forms of neoliberal governance, implemented by diverse actors across governmental, private and civil-society sectors. The study aims to contribute to the theoretical discussion on neoliberal governance, first, by shedding light on the complexity of governance in the situations, where legacies of government-led control and relations of clientelism mix with neoliberal ideas of public-private co-governance and civic self-responsibilisation, provoking multifaceted struggles over subjectivity in the implementation of governing.[18]

Furthermore, this study explores the implementation of neoliberal governance techniques across three socio-economically differentiated sectors in Villahermosa. These neighbourhoods differ from each other in terms of the residents' level of income, access to property, occupation and infrastructure services. By examining the ambiguous arts of governing in this socially segregated but dynamically interconnected city, the study seeks to show how socio-spatial differentiation in people's exposure to flood risks and vulnerabilities is produced, negotiated, reconfigured and contested in everyday politics and power.

In addition to control of urban territory, current forms of neoliberal governance rely on the urban population's multifaceted conduct.[19] Through multiple forms of indirect regulation, government institutions, private companies and civil-society groups seek to

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[17] Morten Nielsen, 'Inverse Governmentality: The Paradoxical Production of Peri-Urban Planning in Maputo, Mozambique', *Critique of Anthropology*, 31: 4 (2011), pp. 329–58.

[18] Collier, 'Topologies of Power'; Valeria Guarneros-Meza, 'Mexican Urban Governance: How Old and New Institutions Coexist and Interact', *International Journal of Urban and Regional Research*, 33: 2 (2009), pp. 463–82.

[19] Bob Jessop, 'From Micro-Powers to Governmentality: Foucault's Work on Statehood, State Formation, Statecraft and State Power', *Political Geography*, 26: 1 (2007), pp. 34–40.

'shepherd' citizens to internalise emergent forms of flood governance that entail governmental oversight, public-private partnership and guided civic involvement.[20] Central to these strategies is the attempt to link the educational programmes that aim to increase people's social resilience and cultural adaptation to live with water with the technological procedures of flood control, and, in this way, pursue socio-spatial order. At stake here is not simply the broadening of neoliberal governance under the guise of local participation, but also a shift to indirect-control techniques in both the social and spatial domains.[21] When examined through post-Foucauldian notions, measures of technological flood-control and programmes directed to enhance residents' social resilience to floods thus emerge as intimately intertwined projects, whose implicit aim is to facilitate people's adjustment to neoliberal ideas of increased self-responsibility. Civic commitment and self-governance become the key issues in order to reach such goals, while the attention to socio-spatial distribution of environmental vulnerabilities is set aside.

A post-Foucauldian approach to governance is combined here with recent theorisations of dispersed identities and mobile networks in order to understand different residents' ambiguous negotiations and shifting contestations of prevailing flood-governance strategies. Recent discussions on dispersed identities and mobile networks have diversified post-Foucauldian approaches to governance with new theories on cities as conglomerates of heterogeneous identities and multifaceted intersections.[22] Instead of considering different

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[20] Fraser, Scales of Justice, pp. 125–26; Erik Swyngedouw, 'Governance Innovation and the Citizen: the Janus Face of Governance-Beyond-the-State', *Urban Studies*, 42: 11 (2005), pp. 1191–2006.

[21] For similar arguments concerning urban governance in Europe, see Gisa Weszkalnys, 'A Robust Square: Planning, Youth Work, and the Making of Public Space in Post-Unification Berlin', *City & Society*, 20: 2 (2008), p. 255.

[22] Ananya Roy, 'Slumdog Cities: Rethinking Subaltern Urbanism', *International Journal of Urban and Regional Research*, 35: 2 (2011), pp. 223–38; AbdouMaliq Simone, '2009 Urban Geography Plenary Lecture on Intersections, Anticipations, and Provisional Publics: Remaking District Life in Jakarta', *Urban Geography*, 31: 3 (2010), pp. 285–308.

parts of the city as separate spheres, I am interested in how people from different parts of the city interact with each other and how different neighbourhoods form a mosaic of urban social geography. Only through such an intersectional analysis, it is possible to understand how the socially differentiated production of urban space contributes to the people's uneven exposure to environmental risks and vulnerabilities. Through an ethnographic inquiry on how different residents conceptualise the distribution of flood risks and vulnerabilities, and how they see their opportunities for negotiating and reconfiguring the prevailing forms of governance, the following study seeks to provide insights into the heterogeneity of contestation efforts in the everyday making of city-life.

Conceptualising governance as an arena of negotiation, reconfiguration and contestation offers opportunities to question taken-for-granted assumptions about the hegemonic power of governing regimes. As Nielsen notes, instead of 'the city being somehow read through particular schemes of power, the city constantly reads itself'.[23] As government authorities frequently fail to deliver what they have promised, residents in different parts of the city reformulate the institutional rules-in-form by improvised rules-in-use. [24] Through ambiguous inverse tactics and networks, they contest the dominant discourses and acts of governing, albeit with varying degrees of authority and power. These processes call for detailed ethnographic analyses of political practices and everyday experiences of governance, especially in Southern contexts, where a variety of formal ways of engaging in politics mingle

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[23] Nielsen, 'Inverse Governmentality', p. 352. For popular reinterpretations of official environmental and planning narratives, see Keith Pezzoli, *Human Settlements and Planning for Ecological Sustainability: The Case of Mexico City* (Cambridge, MA: MIT Press, 1998); Andrew S. Mathews, 'Unlikely Alliances: Encounters between State Science, Nature Spirits, and Indigenous Industrial Forestry in Mexico, 1926–2008', *Current Anthropology*, 50: 1 (2009), pp. 75–101.

[24] Björn Sletto, 'Insurgent Planning and Its Interlocutors: Studio Pedagogy as Unsanctioned Practice in Santo Domingo, Dominican Republic', *Journal of Planning Education and Research*, 33: 2 (2012), pp. 228–40.

with a diversity of informal ones, creating a situation of legal pluralism.[25]

Recent studies of environmental and social movements have demonstrated the sheer variety of contestation struggles in the global South.[26] There is a rich literature on counter-movements in ghettos, favelas, inner cities and other urban margins. However, as Auyero and Swistun note, many of these studies are of little analytic help when trying to understand cases where there is no organised movement and no consensus around what the environmental risks are; instead, people feel confused about the risks and divided over how to manage them.[27] As the following analysis will show, although the residents of Villahermosa engage in diverse inverse tactics, their dealings with flood risks and vulnerabilities are embroiled within institutional settings, political power relations and cultural meanings that, taken together, provoke ambiguous modes of thinking about institutional procedures of governance and fragmented efforts to contest them.

Villahermosa as a panorama of risk and vulnerability

Villahermosa, the capital of the State of Tabasco, has about one million inhabitants. The oil boom in the 1980s led to the city's rapid population growth, as work opportunities offered by

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[25] Javier Auyero, 'Visible Fists, Clandestine Kick, and Invisible Elbows: Three Forms of Regulating Neoliberal Poverty', *European Review of Latin American and Caribbean Studies*, 89 (2010), pp. 5–26; Daniel M. Goldstein, 'In Our Own Hands: Lynching, Justice and the Law in Bolivia', *American Ethnologist*, 30: 1 (2003), pp. 22–43; Anja Nygren, 'Competing Claims on Disputed Lands: The Complexity of Resource Tenure in the Nicaraguan Interior', *Latin American Research Review*, 39: 1 (2004), pp. 123–53.

[26] Asef Bayat and Kees Biekart, 'Cities of Extremes', *Development and Change*, 40: 5 (2009), pp. 815–25; David V. Carruthers (ed.), *Environmental Justice in Latin America: Problems, Promise, and Practice* (Cambridge, MA: MIT Press, 2008); Anja Nygren, (2014) 'Eco-Imperialism and Environmental Justice', in Stewart Lockie, David A. Sonnenfeld and Dina R. Fisher (eds.), *Routledge International Handbook of Social and Environmental Change* (Routledge: London, 2014), pp. 58–69.

[27] Javier Auyero and Deborah A. Swistun, *Flammable: Environmental Suffering in an Argentine Shantytown* (Oxford: Oxford University Press, 2009), pp. 8–12.

the oil industry and the service sector brought large numbers of migrants to the region.[28]

Villahermosa is situated on the tropical wetlands, mainly less than ten metres above the sea

level. Two great rivers –the River Grijalva and the River Carrizal – traverse the city and there

are dozens of lagoons, many of which have been filled for construction purposes. Due to its

location, Villahermosa is exposed to extreme hydro-meteorological events. As 31 per cent of

the Mexican freshwater sources are located in Tabasco, and the region is also one of the main

areas of oil and natural-gas extraction in the country, the challenges faced by the government

authorities in relation to flood governance are extraordinarily high.[29]

Serious floods have been recorded in Villahermosa since the early 1800s;

however, an exceptionally devastating flood occurred in 2007, and since then the city has

suffered annually from serious flooding. The 2007 flood affected 1.5 million people and the

damages were calculated at US$ 3 billion, equivalent to 30 per cent of the state's gross

domestic product.[30] About 62 per cent of the city was inundated, the water level in several

parts of the city reaching up to four metres above street level.

The 2007 flood was an outcome of a complex interplay of bio-physical and

socio-political processes. On October 2007, a tropical storm provoked extreme rainfall in the

upper watershed of the River Grijalva: from the 28th to the 30th of October, precipitation was

five times higher (996 mm) than the historical average. Water levels in the Peñitas Dam

reservoir reached four metres above the maximum level of operation, at which point the

spillways were opened. There was heavy debate in the regional media and public discussions

that the flood was caused because the electricity companies released the water from the

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[28] Norma Esther García Meza (1993) *Vida urbana y cambio social: El caso de Villahermosa, 1970-1990*. (Villahermosa: Universidad Juárez Autónoma de Tabasco, 1993), p. 2.

[29] GET (Gobierno del Estado de Tabasco), 'Plan estatal de desarrollo 2007–2012', 2010, p. 14.

[30] CEPAL (Comisión Económica para América Latina), '*Tabasco: Características e impacto socioeconómico de las inundaciones provocadas a finales de octubre y a comienzos de noviembre de 2007 por el frente frío número 4*', México, D.F: CEPAL, 2008.

upper-river reservoir only after the declaration of emergency in order to maximise profits from electricity generation.[31] This delayed action provoked an exceptional increase in downstream water levels: a volume of water equivalent to 2,055 cubic metres per second flowed into the River Grijalva through Villahermosa on the following days. [32]

Inadequate urban planning and the expansion of settlements into high-risk areas further accelerated the impacts of the 2007 flood in Villahermosa. When examining this flood from a historical and socio-spatial perspective, it becomes clear that the natural causes of flooding cannot be separated from the multi-scale, long-term socio-political processes, including the rapid urban growth and socially differentiated urban policy. From such a perspective, the different flood impacts in different parts of the city cannot be understood without considering the governance structures that produce people's differential exposure to vulnerabilities and their socially differentiated living conditions. The wealth of Tabasco 2000 is manifest in gated communities that provide housing for high-ranking business managers, upper-level oil industry staff and local political elite. Alongside gated residencies in which commercial activities are prohibited, the area includes distinguished business complexes and shopping centres, deluxe hotels and restaurants and a private golf club. Parts of Tabasco 2000 have been constructed in a flood-risk area by filling the wetland and constructing massive flood-protection infrastructure.

El Guayabal is a middle-class neighbourhood, situated near the historic city centre, with many government offices and medium-size enterprises. Most of the residents are

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[31] *Tabasco Hoy*, 8.11.2007, *Presente*, 26.4.2008, and *Tabasco Hoy*, 8.10.2008. For more detailed analysis of the media discourses, see Pia Rinne and Anja Nygren, 'From Resistance to Resilience: Media Discourses on Urban Flood Governance in Mexico', *Journal of Environmental Policy & Planning*, 17 (2015), pp. 1–23.

[32] J. Aparicio, P.F. Martínez-Austria, A. Güiton and A.I. Ramírez, 'Floods in Tabasco, Mexico: A Diagnosis and Proposal for Courses of Action', *Journal of Flood Risk Management*, 2: 2 (2009), pp. 132–38; María Perevochtchikova and José Luís Lezama de la Torre, 'Causas de un desastre: inundaciones del 2007 en Tabasco, México', *Journal of Latin American Geography,* 9: 2 (2010), pp. 73–98.

middle-income employees, such as schoolteachers, government officials and oil-industry technicians. Houses in El Guayabal are typically two-storey concrete buildings. Although temporary floods occur during the rainy season, the magnitude of the 2007 flood was a shock for El Guayabal residents.

Gaviotas Sur is an informal settlement and an ambulatory trade area located on the swampland along the River Grijalva. Many of its residents live in corrugated iron huts along narrow streets or muddy alleyways, some better-off households, with their one- to two-storey concrete houses, are set apart. Most of the Gaviotas Sur residents subsist on manual jobs, part-time domestic work and informal trade. The area suffers yearly from flooding, and during the 2007 flood, the government declared it a catastrophe area.

These divisions within the city are not merely spatial; they also constitute an organising principle in residents' everyday life. The inhabitants of Tabasco 2000 have many opportunities to mitigate the impact of flooding on their lives, while the residents of Gaviotas Sur live in precarious conditions, with insecure property rights, irregular jobs and scarce resources to manage the flood risk. Recent policies, which shifted water, sanitation, health-care and security services from the government to private and third-sector providers, have accelerated the socio-spatial differentiation. In Tabasco 2000, service provision is largely privatised; in El Guayabal, people use a mixture of public and private services, while in Gaviotas Sur, informal services supplement the scant services provided by the municipality.

These issues show how socio-spatial distribution of people's exposure to flood risk is linked to the uneven distribution of everyday vulnerabilities. Although the studied affluent, middle-class and low-class neighbourhoods all share the risk of flooding, the informal residents' precarious housing conditions and limited access to services intensify the

impact of floods on them.[33] The dominant forms of urban policy and planning have tended to protect the environmental quality of affluent neighbourhoods, while diverting hazardous industries and waste-sites towards informal settlements.

In 2011–2014, I carried out 50 open-ended, face-to-face ethnographic interviews in the neighbourhoods of Tabasco 2000, El Guayabal and Gaviotas Sur in order to gain an understanding of different residents' views of flood governance. For detailed understanding of people's experiences of flooding and perceptions of everyday politics, informal conversations and participant observation were crucial. In 2011–2012, our research team conducted a questionnaire at the same sites. Administered to 300 households, the questionnaire inquired about living conditions, infrastructure services and people's exposure to environmental risks and vulnerabilities.

Studies on risks and vulnerabilities have rarely included elite groups, partly because it is difficult to gain access to privileged people and privileged places. This became clear to me when carrying out fieldwork in the gated communities of Tabasco 2000. I had to make several adjustments in my methods in order to gain access and to win the residents' confidence. Participant observation became crucial for data gathering, especially in Tabasco 2000 because many of these residents were suspicious of the purpose of my research and cautious if I made notes during the interviewing. As high-ranking businesspeople and politicians, they were careful of protecting their privacy. It seemed evident that some of them tried to use me – in their calculation, a well-connected Northern researcher – as a channel to get access to socially influential networks.

Furthermore, I conducted 55 interviews with federal, state and municipal-level government authorities, private flood consultants and members of non-governmental

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[33] Martin J. Murray, 'Fire and Ice: Unnatural Disasters and the Disposable Urban Poor in Post-Apartheid Johannesburg', *International Journal of Urban and Regional Research,* 33: 1 (2009), p. 167.

organisations (NGOs). This data was complemented by an analysis of flood-policy reports, urban-development plans and documents of territorial ordering. Archival research and analysis of regional newspapers helped to contextualise the shifting discourses on flood governance that emerged during the ethnographic inquiry.

Ethnographic research is particularly promising for detailed analysis of theoretical arguments about power relations, social networks and cultural meanings related to discourses and practices of governance. Interpretative ethnography, with its interest in alternative conceptualisations, offers a critical vantage point from which to challenge generalising comments on governance and inequality.[34] People's experiences of risks and vulnerabilities, and their networks of everyday politics are difficult to grasp through macro-scale surveys only. The following ethnographic analysis seeks to illustrate the socially differentiated character of flood governance and the ambiguous ways that people forge, cope and contest the dominant forms of environmental governance. It also shows how flood risks are subjected to multiple layers of judgement and interpretation, depending upon who is trying to make sense of risks and for what purposes.[35]

Multifaceted agendas of control and self-regulation

Discourses on cultural adaptation and civic involvement

In 2003, the government-led flood-control project, *Proyecto Integral Contra Inundaciones* (PICI) was established in Tabasco, to provide environmental safety in Villahermosa through

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[34] Alain Cerwonka and Liisa H. Malkki, *Improvising Theory: Process and Temporality in Ethnographic Fieldwork* (Chicago, IL: University of Chicago Press, 2007), p. 14.

[35] Murray, 'Fire and Ice', pp. 167–68.

construction of flood-preventive infrastructure, such as dams, canals and floodwalls. The 2007 flood gave the impetus to transform such technological flood-control measures into integrated flood-resilience strategies, with a revised flood-governance programme, *Programa Hidrico Integral de Tabasco* (PHIT), established in 2008. [36] This new programme holds the crucial idea that infrastructure projects alone cannot combat flood disasters; rather, technological flood control needs to be linked to cultural adaptation and social resilience. This raises important questions related to post-Foucauldian notions of governmentality: how does power operate within the new modes of governance, and what techniques of governing are used? Especially interesting is the question of how local residents are constituted as subjects. In 2011, this question began to preoccupy my inquiry after I interviewed a high-ranking official at the Instituto de Protección Civil (Institute of Civil Protection, IPC), who explained the new flood-governance strategies in a way that inverted my preliminary assumptions:

> No disaster is natural; rather, disasters are socially constructed… People must become aware of the threats and know how to manage them. Campaigns of education and capacity-building are needed to promote a culture of self-protection. So that people understand that nobody is going to protect you from a flood but that you need to protect yourself. All environmental problems are socially constructed, I mean, a matter of culture. Unfortunately, many people think that if I have a problem, the government has to resolve it. People do not take up the baton.

> (IPC, 21 February 2011)

Similar opinions became clear in many interviews with government officials, urban planners and private flood consultants. According to these authorities and experts, flood governance

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[36] CONAGUA (Comisión Nacional del Agua) (2012) 'Plan hídrico integral de Tabasco'. Available at www.cna.gob.mx/Contenido.aspx?n1=4&n2=103&n3=194 (accessed 5 May 2012).

could no longer be reduced to a technical problem; rather flood risk is, according to them, a socio-cultural phenomenon. It was especially the civil engineers responsible for flood management who emphasised to me that technological flood control is not sufficient for preventing devastating floods; they considered social capacity-building and civic self-responsibilisation key for successful governance.

This 'social turn' in flood governance placed considerable emphasis on cultural adaptation to risk. Interestingly, government authorities and flood consultants understood the socially constructed character of risks as indicating that different people have different cultural capabilities for adapting to floods. Slum-dwellers were regarded as indifferent to build a safe living environment because they were considered to lack a thorough understanding of the risks. After the 2007 flood, the Governor of Tabasco appeared in the media exhorting 'people to calm down and stop spreading false rumours'.[37] Such *rumorología* was especially considered characteristic of the poor, who officials saw as reluctant to adapt to living with water. In this way, vulnerability was linked to cultural attitudes of indifference, with scant attention given to the socio-economic conditions that make some people more vulnerable than others. Simultaneously, this turn to social resilience, with a strong emphasis on the cultural awareness of the risk, delegitimized the extensive government interventions on flood-risk prevention.

While flood governance in earlier decades focused on controlling the urban territory through massive infrastructure projects, current flood governance is oriented towards governing urban populations. These procedures are implemented not only through legislation and public regulation, but increasingly through public-private co-governance and market-based incentives, including privatisation of water, sanitation and waste-management services. In order to diminish the costs of public spending, the government outsources various flood-

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[37] *Tabasco Hoy*, 02.11.2007.

management tasks and service provisions to private (sub)contractors and civil-society groups. These measures challenge the view of the state as the sole service provider, whilst replacing the notion of public services with that of private provisions.

Different from earlier, government-led flood-control policies, current mechanisms of flood governance give civic self-responsibilisation a key role. As several officials explained to me, whereas in the 2000s, environmental-policy guidelines were drafted as rigorous rules to be obeyed, currently, the government prioritises civic involvement and self-responsibilisation.[38] As the Development Plan of Tabasco (PEOT) emphasises, the government's role is to facilitate citizens to develop their own initiatives to care for their living conditions and mitigate their own vulnerability.[39]

In order to efficiently incorporate local residents in flood governance, government authorities have contracted private consultants and NGO facilitators with expertise in participatory methods to promote social-oriented flood-governance programmes. Correspondingly, many authorities have stressed the incorporation of local political leaders, so-called *caciques*, and their assistants, called *achichincles*, into flood governance, based on the argument that local leaders know how to prevent confrontation. The *caciques* and *achichincles,* as mediators between the officials and residents, were assumed to have an intimate knowledge of everyday politics and the charisma to speak in a socially resonant way. These skills were considered crucial when promoting self-responsibility, as a government coordinator of participatory programmes noted:

It's important to incorporate local leaders in our actions because the leaders know how to manage people. We want to prevent flood risk from turning into political problems, and

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[38] Author's interviews 15 Feb. 2011 and 21 Feb. 2011; group discussion 17 Oct. 2011.

[39] PEOT, 'Programa Estatal de Ordenamiento Territorial y Desarrollo Urbano del Estado de Tabasco 2007–2012'. Gobierno del Estado de Tabasco, 2008.

so we encourage civic participation. It's a way to control social mobilisation.

(Coordinator of civic participation, 19 October 2011)

What was interesting in these comments was the issue that both the government authorities and the development facilitators considered the participatory programmes as apolitical, while also identifying them as a way to confront local resistance. Similarly, they claimed that flood risks are socially constructed, but unconnected to the uneven distribution of vulnerabilities. Through calculating comments, authorities simultaneously constructed civic participation as apolitical and as a politically efficient way to control social mobilisation.

In line with neoliberal thinking, the authorities responsible for flood governance emphasised that it is important that people readopt the traditional way of 'living with water' (*convivir con el agua*) and the time-honoured 'culture of water' (*cultura del agua*). They explained how people in Tabasco traditionally moved in kayaks and constructed two-storey houses, where the upper storey served as storage (*tapanca*) for stocking supplies for when the water level rose. In the new flood-governance proposals, local knowledge is presented as a valuable asset to promote a 'culture of water resilience'. As an official of the Secretaría de Medio Ambiente y Recursos Naturales (Ministry of Environment and Natural Resources, SEMARNAT) explained:

> We cannot conquer Nature; rather, we need strategies of adaptation and self-regulation. We now have integrated schemes of governance, where we involve actors from different levels of government, from the private sector and NGOs to work with local residents. Earlier, people adjusted to the reality that this is a zone of water. When the flood was over, they returned to their homes, cleaned their houses and continued to live normally. Now in any flooding, people feel damaged. It's important to learn to live with water again.

(SEMARNAT, 15 February 2011)

Such agendas increasingly shift the responsibility of flood management to local residents. By presenting the participatory forms of flood governance as a mean to return to traditional forms of collective action, officials constructed the past as a model for civic responsibility and cultural adaptation. They had little consideration of the unequal access to resources and the uneven distribution of vulnerabilities. This study's interview and survey data indicate that there were great differences in: who lived in neighbourhoods prone to flooding; who were evacuated by which means and where; how the damaged neighbourhoods were rebuilt; and who was represented in the decision making concerning the reconstruction.[40]

Techniques of governance: Indirect conduct of conduct

The new flood-governance strategies have generated different techniques of governing in the different socio-economic sectors across the city. In affluent neighbourhoods, government institutes and private companies are building canals and floodwalls and installing modern pumping stations that can quickly remove floodwater. Meanwhile, people in informal settlements are asked to pile up sandbags, although everybody knows that in a catastrophic flood, this is a cosmetic effort. The government also carries out intensive awareness-raising programmes, based on the view that a key cause of flooding in informal settlements is a lack of a culture of order, which makes people drop litter and thus choke the drains. The implicit idea is that the informal residents need to become aware that they themselves are responsible

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[40] For similar issues raised concerning the aftermath of Hurricane Katrina in New Orleans, see Robert D. Bullard and Beverly Wright (eds.), *Race, Place, and Environmental Justice After the Hurricane Katrina: Struggles to Reclaim, Rebuild, and Revitalize New Orleans and the Gulf Coast* (Boulder, CO: Westview Press, 2009).

for heightened flood risk and should transform themselves from nonchalant slum-dwellers into responsible citizens.

Authorities have paid scant attention to how the uneven provision of services distinguishes neighbourhoods in terms of vulnerability, and how multi-scale urban policy sustains differentiated citizenship, where public services become privileges, granted according to people's socio-economic status.[41] The lack of political will to apply risk-prevention strategies in shantytowns, which government officials consider as places of social ill and environmental hazard, creates a vicious cycle of increased risk and vulnerability. By emphasising the cultural causes of flood disasters, the government authorities and flood consultants ignore the multi-scalar causes of socially differentiated disaster vulnerability, including the socio-economic marginality of the poor, who have no other option than to seek shelter in flood-prone environments.[42]

This status of living in risk-prone environments, at the legal margin, sustains the everyday vulnerability of Gaviotas Sur residents. Many households do not have access to clean water, and sanitation and health-care services are limited, with authorities claiming that it is not their responsibility to provide services to illegal settlements. The institutional imagery of informal settlements, as having a culture of the outskirts and an economy of begging and peddling, constructs these areas as spaces to be governed separately from the rest of the city, thereby concealing the multifaceted ways that affluent neighbourhoods, middle-class communities and informal settlements are interlinked in terms of labour relations and provision of (informal) services.

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[41] On differentiated citizenship and its contestations, see James Holston, 'Contesting Privilege with Right: The Transformation of Differentiated Citizenship in Brazil', *Citizenship Studies*, 15: 3–4 (2011), pp. 335–52; Lucy Earle, 'From Insurgent to Transgressive Citizenship: Housing, Social Movements and the Politics of Rights in Sao Paulo', *Journal of Latin American Studies*, 44: 1 (2012), pp. 97–126.

[42] Murray, 'Fire and Ice', p. 185.

In line with the new flood-governance techniques, Villahermosa has recently become an arena of huge projects of zoning and coding. The aim of these projects, using new techniques of remote sensing and risk assessment, is to identify the critical risk zones and the populations living in them. As indicated in Figure 1, most of these areas are located along the riverbanks, and occupied by the poor. The government is investing heavily in regulating the circulation of water and people in these areas. There are projects for preventing clandestine house-building, enhancing residents' environmental awareness and relocating street vendors to registered markets with modern standards of waste management. The streets of Gaviotas Sur have been given official names and the plots in its alleyways have been numbered, to track exactly who is living in the critical risk-zones.

In my interviews, government authorities and flood consultants emphasised residents' own behaviour as an important factor in why floods have different effects in different neighbourhoods. They pointed out that the residents of Gaviotas Sur themselves chose to settle in a hazard-prone area and were thus responsible for the drastic consequences of flooding. There was little acknowledgement that survival obliged many of these people to occupy the former wasteland. In my interviews with Gaviotas Sur residents, many of them pointed out that, in fact, the local political leaders had persuaded them to settle there in order to get their votes. The authorities of the Comisión Nacional del Agua (National Water Commission, CONAGUA) claimed that the poor people's habit of building shacks in high-risk areas was based on a 'culture of damage-beneficiaries', which enticed people into settling in flood-prone areas and subsequently demanding compensations.[43] The common term for informal residents, '*paracaidistas*' ('parachutists'), describes those who materialise out of thin air and invade unoccupied areas in order to extort compensation. This term delegitimises the informal residents' views that it is the responsibility of the government to

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[43] Author's interview, 15 Feb. 2011.

facilitate safe living conditions for all citizens, regardless of their socio-economic position.

Current flood-governance strategies strive for relocating informal residents living in high flood-risk areas. Since 2009, the government has relocated thousands from the city centre to the suburban periphery. People's reluctance to leave has been interpreted as a sign of indifference, as an official of CONAGUA expressed in *El Heraldo* on 5 May 2011: 'it's a pity that these citizens don't understand that the removal is for their own security, as these areas are not apt for residence, and thus don't have any services'. According to archival data, plans to relocate these people have existed since the 1990s; however, political sensitivity caused officials to postpone these efforts. The 2007 flood provided a pretext to 'clean' the city centre of informal residents in the name of saving the city from a future disaster. The settlers' houses were bulldozed to create 'an urban territory with order and equilibrium', as the Development Plan of Tabasco states.[44] This is a clear example of social segregation between those who can afford to live in the newly designed areas and those pushed to the margins.

An illustration of how the production of flood risk is linked to socially differentiated production of urban space is that affluent neighbourhoods and commercial installations have also been built in areas where construction is prohibited. Civil servants are granting clandestine construction permits for powerful concessionaires and affluent citizens, while categorising poor people's informal land occupations as illegal. This demonstrates how the rules of flood governance are negotiated in clientelist networks, where authorities have the power to define how rights and responsibilities apply.[45] Common across the public, private and voluntary sectors, these clientelist networks are informal and thus largely beyond

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[44] GET, 'Evaluación y actualización: Plan estatal de desarrollo 2007–2012'. Gobierno del Estado de Tabasco, 2010, p. 156.

[45] For an interesting analysis of the political reconfiguration of urban risks in Colombia, see Austin Zeiderman, 'On Shaky Ground: The Making of Risk in Bogotá', *Environment and Planning A*, 44: 7 (2012), pp. 1570–88.

public scrutiny.

Despite the official arguments that flood governance is everyone's responsibility, the reality is that civil society is fragile and local elites dominate decision-making. Government authorities control social protest by arguing that co-governance requires cooperation instead of scandalisation. By promoting outsourcing and public-private co-governance that diffuse questions of responsibility, authorities seek to depoliticise the flood issue. The social-justice and human-rights advocates, when their voices are heard, try to re-politicise the matter by claiming that flood governance cannot be outsourced to private or civil-society actors, but that it is the government's responsibility to address public concerns related to flooding.[46]

Current flood-governance techniques also aim to transform environmental uncertainties into manageable risks. The officials of the Instituto de Protección Civil (IPC) frequently reminded me that 'it's important to give the view that flood risk is under institutional control'.[47] However, due to heightened doubts about the possibility to technologically control the risk, the flood consultants and government authorities emphasised that flood governance needs to be conducted primarily from a socio-cultural point of view. The authorities noted that 'if people don't respect water, it will take revenge and recover what is its own', which makes it obligatory to develop strategies for 'allying with water'.[48] In their view, the knowledge that flood-management specialists gain through techniques of remote sensing and risk scenarios should be integrated with the knowledge of development

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[46] Author's interviews, 17 Oct. 2011 and 19 Oct. 2011. See also Comisión Nacional de Derechos Humanos-Tabasco (2011). Available at www.cndh.org.mx/sites/all/fuentes/documentos/Recomendaciones/2011/REC_2011_061.pdf (accessed 7 May 2012).

[47] Author's interviews, 21 Feb. 2011 and 19 Oct. 2011.

[48] Author's interviews, 16 Feb. 2011 and 21 Oct. 2011. See also flood specialists' and government officials' interviews in the regional newspaper of *Presente,* 26.4.2008 and 10.4.2010.

facilitators and local leaders who know how to 'manage' people. Through the integration of such knowledge, it would be possible, so they claimed, to develop detailed plans for city order and social resilience. This knowledge, which authorities claimed was to serve the common good in terms of risk management, contained highly politicised guidelines for rendering particular population groups governable. Special procedures were planned for correcting the behaviour of those considered 'risk-causers'.

Simultaneously, various forms of private regulation have been encouraged, with the intention to spur technological innovation and green economy that facilitate cost-effective flood management. In such strategies, public regulation and legally binding contracts are mixed with privatisation of water and sanitation services, and voluntary programmes of civic protection and community well-being. These procedures generate governance arenas, in which private companies and civil-society groups are authorised to conduct some of the governmental tasks.[49] On many occasions, the government deliberately promoted public-private partnerships in order to legitimise interventions that would otherwise have met with considerable resistance. In this hybridity of governance, citizens have difficulties in knowing whom to claim responsible for what.

At the same time, concentrating decision-making in government institutes undermines the concept of governance as horizontal networks. The result is a multi-layered assemblage of governing, where diverse regulatory schemes, administrative measures and moral propositions are mingled with a logic that favours indirect institutional governance, market-based regulation and attribution of individual responsibility. Such neoliberal forms of governance aim to create citizens, who transform themselves from a state of inaction to taking on responsibilities.[50]

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[49] Ferguson, 'The Uses of Neoliberalism'; Swyngedouw, 'Governance Innovation'.

[50] Rose, O'Malley and Valverde, 'Governmentality'.

A careful examination of political practices of governance helps to understand who governs what and whom, with what techniques and towards what ends.[51] What still remains to be explained is how local residents' understandings resonate with or contest the measures by which the authorities and flood-management experts aim to create governable places and governable subjects. To complement Foucauldian approaches to governmentality, which, according to some critics, focus on the efforts of planners and programmers to govern marginalised people[52], the next section explores how residents in different parts of the city understood themselves within the regimes designed to govern their subjectivities. It also looks at how residents renegotiated and contested the prevalent arts of governing.

Everyday contingencies and contestations

Dispersed identities and multifaceted inverse tactics

The government authorities' and flood consultants' goals to create segregated zones of 'sustainable living' in Villahermosa clashed with the messiness of everyday life. Residents from different parts of the city challenged the disciplinary forms of neoliberal governance through tactics of inverse governmentality.[53] In Gaviotas Sur, residents regularised their land occupations through intermittent house-renovation projects. They filled their plots with sand and waste to demonstrate to the authorities that they are living within the flood-risk limits. They renovated their simple huts with concrete and corrugated iron to show that their homes are built with durable materials and thus according to standards required by the rules for

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[51] Dean, Governmentality, pp. 30–37.

[52] Mckee, 'Post-Foucauldian Governmentality', p. 479.

[53] Nielsen, 'Inverse Governmentality', p. 331.

mitigating flood impacts. They also constructed small sidewalks (*banquetas*) in front of their houses and mounted rustic street lamps in the shadowy alleys to demonstrate that their homes were tidy and permanently occupied. They even reinterpreted the meaning of the street names established by city registers. Street of Engineers' and 'Street of Anthropologists' were a source of pride because, according to residents, 'it all sounds more official now'.[54]

It was through such inverse tactics that the informal residents sought to challenge the authorities' efforts to legitimise the uneven production of urban space through arguments of different people's different abilities to prevent the flood risk. Such inverse tactics were a way to show improvements in the neighbourhood's environmental safety and thus decrease the likelihood of being forcibly removed. In the informal residents' view, they had a right to urban space because they built their homes and everyday lives there, and recovered from its terrible floods and turbulent politics. The residents of Gaviotas Sur questioned institutional strategies, according to which informal settlements had to be governed separately in order for flood prevention to be efficient. In their view, such procedures concealed the hierarchical structures of flood governance and increased social segregation.

When visiting informal settlements, government officials judged the residents' housing improvements as cleverly calculated tactics. At the same time, they felt obliged to somehow acknowledge these informal acts of regulation because, in everyday politics, house improvements provide social justification for land occupation. Thus, these inverse tactics were not just minor acts of everyday resistance. Inhabitants who have been able to occupy formerly idle land and make significant house improvements have the possibility to later gain official recognition of their residence.

Correspondingly, residents of affluent and middle-class neighbourhoods used

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[54] Author's interview, 12 Aug. 2011.

several inverse tactics to appropriate urban space by acts that demonstrated their fulfilment of building a safe living environment. The middle-class residents of El Guayabal gradually amplified their single-storey houses to two- or three-storey buildings with balconies, justifying their unauthorised actions through the argument that the upper stories served for auxiliary accommodation and storage during the flood contingency. These renovations increased the property values in the neighbourhood, and justified the residents' requests for improved services.

   In the affluent neighbourhoods of Tabasco 2000, several families extended their backyard by constructing an outdoor grill or a car shelter on adjacent federal land. They justified these actions on the grounds that as they embanked and paved the seized piece of yard, this improved the control of water flow from the muddy brook running on the federal land and thus enhanced the environmental safety in the neighbourhood. Residents also appropriated some public streets and green-spaces for access routes and leisure facilities exclusively for the gated communities on the grounds that as they could afford private waste-management services in such areas, this increased the neighbourhood's safety from floods. Through such arguments, the residents of Tabasco 2000 supported the concept of differentiated citizenship, which justified their environmental privileges on the basis of their distinguished social status. Proud of what they had achieved through personal accomplishment, the residents of affluent neighbourhoods argued that since they pay huge taxes and contribute significantly to the national economy, they deserve more efficient protection from floods than the economically inefficient slum-dwellers. Julio, an economically successful and socially influential businessman conceptualised the issue as follows:

  The officials have to serve us better because we are those who raise the city, who pay a
  large amount of taxes. People here in Tabasco 2000 do not feel the floods in the same

way as those in Gaviotas Sur. It's because of cultural difference. Here, we don't throw

waste into the streets because it provokes flooding…In Gaviotas Sur, people don't care.

The government cannot protect them because they just settle wherever. They don't have

sewers, or potable water. And they don't pay taxes.

(Julio, 11 October 2011)

Justifying their own positions, the affluent and middle-class residents demanded that

authorities provide their neighbourhoods with efficient water storage systems and backup

generators to eliminate unnecessary disturbances in their daily lives.[55] Simultaneously, they

stressed that the poor needed to stop to asking for governmental help for everything because

being a successful citizen requires self-achievement. Many of them supported the authorities'

efforts to remove informal residents from the city centre, based on the argument that slum-

dwellers and ambulatory traders 'don't obey the laws' and are a 'source of environmental and

social disorder'.[56]

The residents of Gaviotas Sur contested the affluent and middle-class residents'

views of their privileged positions by emphasising everyone's right to a safe living

environment. They questioned the privatisation of public services, claiming that the

government has a responsibility to provide basic amenities and disaster prevention, for every

neighbourhood. At the same time, these informal residents struggled for official recognition

of their alternative ways of living, which included many aspects that the authorities

categorised as illicit. In the precarious settlements, where the basic infrastructure was rarely

the result of public policy, people enacted diverse tactics to cope with deficiency.[57] They

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[55] Author's interview, 8 Aug. 2011.

[56] Author's interviews, 11 Aug. 2011, 17 Aug. 2011 and 19 Oct. 2011.

[57] For an inspiring analysis how ideas of trash and waste change over time and context, and how radical art may alter our imagination of the slums, see Gareth A. Jones, 'Slumming About: Aesthetics, Art and Politics', *City*, 15:6 (2011), pp. 696–708. For corresponding ideas concerning urban planning, see Faranak Miraftab,

connected their informal water pipes and electricity wires to the official networks. And, in the absence of public security services and early flood-warning systems, they practiced informal security control by being vigilant and informing each other of any sign of increasing water levels in the rivers that might indicate a forthcoming flood.

The examination of different residents' conceptions of risk and vulnerability – not just as portrayed in risk cartographies, but as lived experience – revealed a complex social geography, where people navigated the city according to their evaluation of places as worthwhile *versus* risky. On rare occasions when affluent residents visited informal settlements, they felt highly insecure. In their view, slums were overwhelming places, requiring extreme attention; they were underdeveloped and overused sites, where the 'streets and alleyways split like a broken plate' and whose 'inefficiency provoked environmental hazard and social disorder for the entire city'.[58] The affluent residents were horrified of the risks that people living in deprived shacks along the riverbanks were ready to take; meanwhile, the residents living in these areas emphasised their intimate knowledge of the river and how their lives were not simply miserable but also worth living. As Josefina from Gaviotas Sur, explained to me: 'Even though my neighbourhood may be ugly, for me it's pretty.'[59]

The middle-class residents, living near the city centre demonstrated strong attachments to their neighbourhood. When I showed them archival photographs of old Villahermosa, they began enthusiastically to tell me stories, recalling which stores had operated on which streets and up to what level floodwaters had risen on different occasions. While the affluent residents of Tabasco 2000 preferred private green-spaces where they could

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'Insurgent Planning: Situating Radical Planning in the Global South', *Planning Theory,* 8: 1 (2009), pp. 32–50.

[58] Author's interview, 11 Feb. 2011.

[59] Author's interview, 12 Aug. 2011.

organise private cocktail parties, middle-class residents valued the open-air events arranged in the centre, where anyone could go and dance in the streets. The residents of Gaviotas Sur loved the bustling streets where the animated activities promoted a feeling of a lived-in place. For them, the few green-spaces in their neighbourhood were a source of fear because they were places where one might be at risk of a sudden flood or an assault. For security reasons, parents preferred their children to play in a busy street rather than an isolated park.

While the government authorities tried to convince people that environmental risks are manageable, for local residents of any socio-economic status, flood risks were uncertainties surrounded with much confusion as to their causes. Every year during the heavy-rain season, concerns of flooding heightened across the city. Such perceptions were difficult to transform through official campaigns of good governance, especially because people were highly sensitive to any rumours concerning corruption or horse-trading in flood governance.[60]

Nevertheless, environmental risks and vulnerabilities affected different residents in different ways. The government officials and consultants who emphasised self-responsibility in disaster recovery ignored the fact that normalising one's life after a catastrophe has much to do with people's socio-economic situation, and thus is not simply a question of individual resolve.[61] According to our questionnaire, 30 per cent of the households of Tabasco 2000 and 15 per cent of those of El Guayabal had home insurance[62], while none of the informal residents of Gaviotas Sur were even eligible. Following floods,

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[60] There was lively discussion on corrupt practices in flood governance in the Tabascan media. The newspapers had a wide coverage of corrupt practices associated with flood governance, stating that much of the work carried out in the name of flood prevention has lined the pockets of corrupt government officials and greedy construction companies (*Tabasco Hoy*, 8.10.2008; *Tabasco Hoy*, 19.6.2010; *Presente*, 29.9.2010).

[61] Gordon Walker, 'Beyond Distribution and Proximity: Exploring the Multiple Spatialities of Environmental Justice', *Antipode*, 41: 4 (2009), pp. 614–36.

[62] These rates are relatively high, considering that home insurance is not common in Mexico.

about 88 per cent of Gaviotas Sur residents spent weeks or months in emergency shelters or lodged with relatives until they were able to return to their homes or find another place to live. None of the Tabasco 2000 residents even thought about leaving for an emergency shelter. Many of them left for a hotel or a second house elsewhere in Mexico, as José Manuel stated with a sign of relief: 'Thanks to God, I have another house in Cancun, where I stayed during the flood'.[63] Hence, the ability to recover after the disaster was linked to socio-economic status; further, differences stemming from age and gender were also significant. Women responsible for domestic well-being often suffered the most traumas. Tania, a mother of two from Gaviotas Sur, who worked as a chambermaid in Tabasco 2000, explained her sense of fragility as follows:

> Water rushed in like a snake attacking. There was no time to save anything. There were mattresses, fridges, tables, wardrobes swimming in the river. They [the officials] began to order 'Go away, go away!' It's easy to give an order like that; but how are you going to make it if you have to leave your home.

> (Tania, 15 February 2011)

City-life was also difficult to regulate through institutional governance strategies because people created a fluctuating urban fabric through mobile networks, deferring fixed territories of belonging.[64] The low-income residents of Gaviotas Sur were linked to upper- and middle-class neighbourhoods through temporary jobs as watchmen and domestic servants and through informal services of blacksmithing, carpentry, tire patching and alternative medicine.

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[63] Author's interview, 11 Aug. 2011.

[64] Similar notes have been made of the everyday life in various Southern cities. For Lagos, see Matthew Gandy, 'Planning, Anti-Planning and the Infrastructure Crisis Facing Metropolitan Lagos', *Urban Studies*, 43: 2 (2006), pp. 271–96; for Dakar, Johannesburg and Jakarta, see AbdouMaliq Simone, *City Life from Jakarta to Dakar: Movements at the Crossroads* (New York: Routledge, 2010).

Correspondingly, the residents of Tabasco 2000 organised charity activities on behalf of the poor trying to recover from flood contingencies.

In this bustle of class intersections, informal residents made note of the institutional structures that provided affluent residents with privileges in the shape of infrastructure and flood-risk prevention. At the same time, lack of these infrastructures constrained the poor's opportunities for living with dignity amidst the reduced social policies due to neoliberal reforms. Even when the poor were aware of the uneven consequences of the socially differentiated flood governance, they often replicated such an approach in practice. In many interviews, the residents of Gaviotas Sur reiterated the Governor's message that the 2007 flood reached such a magnitude because they did not obey the authorities' instructions but spread false rumours. As Adriana explained me ashamed:

We lost much during the flood because we didn't pay attention. The Governor announced: 'Go away, because there will be a flood!' But people said: 'How can the Governor know if he is nothing like God?' It was our fault for not obeying the instructions.

(Adriana, 12 August 2011)

Regardless of their social position, many people claimed that the government had abandoned them, yet at the same time, they criticised strict governmental control. For many residents, the new surveillance techniques, based on risk scenarios and mapping of high-risk areas, were paving the way for flood governance that ignored local needs. The multiplicity of actors involved in governance increased a sense of suspicion, making people pose questions about who benefits from flood-governance programmes and who bears the costs.

Nevertheless, there were considerable differences in the ways that residents saw their position in the decision-making. Many residents of Tabasco 2000 were members of local chambers of commerce or other professional associations, with close links to politicians.

They had clear visions for how to improve risk prevention in their own neighbourhood, and less interest in integrated urban planning.[65] They stressed the quality of their neighbourhood's environmental services and rapid risk mitigation. The residents of Gaviotas Sur made fretful comments about how the canals that diverted floodwater away from affluent neighbourhoods transferred the risk to poor communities.[66] The middle-class residents of El Guayabal asked the government for flood-governance strategies that would effectively improve their daily lives instead of superficial renovation of historic buildings. Santiago from El Guayabal conceptualised the situation as follows:

> In the restoration projects, they are just painting facades. This isn't what is most needed. Here, a good system of sewers would be needed to manage the grey-water. During the 2007 flood, the dirty water entered into our houses…But, nobody cares about sewers because such things are invisible. The politicians prefer to paint buildings for the political publicity.

> (Santiago, 22 August 2011)

Interestingly, while the government attempted to diminish public-spending costs through outsourcing and voluntary agreements, local residents saw the government's active involvement in flood governance and urban planning as a sign of legitimacy. It was part of their view of how to get things done, albeit slowly and often in an authoritative way. The residents of Gaviotas Sur also lacked the technological flood-control projects, especially noting that floodwalls and water-pumping stations were being installed in affluent parts of the

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[65] For similar notions concerning the cities of Querétaro and San Luis Potosí in Mexico, see Guarneros-Meza, 'Mexican Urban Governance', pp. 474–75.

[66] There was lively discussion on this issue in the Tabascan newspapers in 2011. Social-justice activists claimed that the attempts to control the flow of floodwater through canals, saves some people at the expense of sacrificing others. See e.g. *Tabasco Hoy*, 16.11.2011.

city. Contrary to the authorities and private consultants, who wanted people to become more self-governed, the residents themselves expected the government to take care of their environmental safety and well-being. At the same time, they contested the governmental efforts of oversight and paternalist control, as the following section shows.

Networks of sporadic resistance

Institutional governance strategies do not deterministically define people's subject-position nor do they determine their behaviour; rather, in everyday life, acts of governing are reformulated through 'quiet encroachments of the ordinary' that occur outside, in spite of and in articulation with, formal governance strategies. [67] This makes it difficult to claim that one strategy falls within the order of 'oppression' and another one in tactics of 'liberation'. [68] By trying to avoid dichotomies between imposed interventions and insurgent inventions, this study conceptualises local contestations as social formations that are dispersed and fragmented, always in-the-making. [69] This is especially so in Villahermosa, where claims to environmental justice are rarely articulated within a frame of organised protest movement.

Many studies of environmental and social-justice struggles focus on movements that are highly progressive and that gather considerable media attention. [70] However, as Auyero and Swistun note, local claims for justice do not necessarily have a unified agenda. [71] Independent of their social status, the residents of Villahermosa were confused about how to

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[67] Bayat and Biekart, 'Cities of Extreme', p. 823.

[68] Michel Foucault, 'Space, Knowledge and Power', in Paul Rabinow (ed.), *The Foucault Reader* (London: Penguin Books, 1991), p. 245.

[69] See Sletto, 'Insurgent Planning'; Zeiderman, 'On Shaky Ground', pp. 1575–76.

[70] Nygren, 'Eco-Imperialism and Environmental Justice'.

[71] Auyero and Swistun, Flammable, pp. 4–8.

contest the new modes of flood governance. This confusion was partly produced by the hybridity of governance, where the multiplicity of actors and techniques diffused responsibility. The authorities' delayed tactics further strengthened such confusion. I was an eye-witness in many situations, where residents' demands for more just governance were postponed by the policymakers and where government authorities claimed to those asking more safety from the floods that the issues of environmental safety did not belong to their responsibility. Such strategies easily exhausted the advocates struggling for increased justice and equality in flood governance.

In such circumstances, people preferred conventional patron-client relations, whose repertoires they somehow knew. Market-based mechanisms, where flood-risk governance and environmental-service provisions were outsourced to private companies with their own schemes of monitoring, made it difficult for people to know who was behind which operation. In order to deal with the situation, the residents of Villahermosa invested heavily in personal dealings with authorities, calculating that such ties would serve as important avenues for negotiation. Such was the view of Claudio, a high-ranking official living in Tabasco 2000:

Everyone arranges matters in the way he is able to: through friendships, recommendations or under the table. Some politicians who live in Tabasco 2000 have much influence. We…pressure the authorities through our personal networks.

(Claudio, 11 August 2011)

Correspondingly, although the poor contested the clientelist relations that favoured flood protection in affluent neighbourhoods, they themselves also turned to such relations to negotiate small favours to their own benefit. As Candelario, a political leader from Gaviotas Sur, told me, 'Sometimes you need to milk the authorities to get small benefits and tiny

concessions.'[72]

Within the socially segregated city, there were considerable differences in people's willingness and ability to organise around environmental-safety issues. The affluent and upper middle-class residents upheld the views of differentiated citizenship that granted them privileges, and were thus reluctant to join movements claiming for environmental justice. Correspondingly, informal residents were unwilling to mobilise via highly visible, organised movements because of their position at the legal margin. More often, the Gaviotas Sur residents' touching stories were about how they recovered from the flood disaster and from the everyday distress through informal tactics. Josefina, from Gaviotas Sur, told me the following story of how she was able to move on despite everything:

> During the flood, I thought that I have to be strong no matter what happens. I didn't mind losing things as long as nothing happened to my family…I work in a pie stand near Pino Suarez. There are days that they sell and days they don't…Here people are masons, craftsmen, metalworkers, shoe-repairers, butchers, chicken-vendors, fruit-sellers, seamstresses and tortilla-makers by profession…We're poor but we have the right to do what it takes to move forwards.

(Josefina, 12 August 2011)

Such stories provide illustrative examples of people's impressive skills for mental recovery and their strong sense of dignity. In her comment, Josefina explicitly emphasises that the tortilla-makers and chicken-vendors are professionals (*gente de profesión*) and the poor have the right (*derecho*) to move forwards. However, at the same time these accounts raise serious concerns in my mind, especially because many informal residents told me how, after the disaster, officials informed them that: 'The flood came because of Nature…or because you

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[72] Author's interview, 12 Aug. 2011.

didn't obey the rules. Thus, the government is not culpable, and so you need to just take care of yourselves and recover'.[73] Through such statements, the cause for flood was disconnected from institutional procedures of governance and urban planning. Furthermore, although noteworthy international and national disaster relief was provided for the victims right after the disaster, people were subsequently urged to develop their own capacities to normalise their lives.

Although the informal residents' demands for improved living conditions sometimes led to politicised demonstrations, contestation through invisible tactics was much more common. Central to these contestations were claims that the flood risk cannot be separated from the institutional deficiencies in flood governance. As a form of everyday resistance, the residents of Gaviotas Sur refused to pay for electricity services. In contrast to electricity companies' accusations that the informal residents were shamelessly stealing electricity, the residents of Gaviotas Sur perceived their illegal electricity networks – called '*diablitos*' ('small devils') in the local dialect – as the only fair way to act in a situation where the services provided for them were intermittent and the maximisation of energy production in the operation of dams caused them flood hazards. As Tomas murmured, seeing people wading waist-deep in water in October 2011, when Gaviotas Sur was once again inundated:

This flood is provoked by the government. It smells of dam-water. The authorities allow floods here because they want to produce electricity for other parts of the country.

(Tomas, 16 October 2011)

These tactics brought to my mind Nancy Scheper-Hughes' experience of carrying out ethnographic research in Brazilian favelas where the residents repeatedly reminded her that

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[73] Author's interviews, 12 Aug. 2011, 23 Aug. 2011 and 18 Oct. 2011.

'here, no one is innocent'.[74] Although not allowed to express open criticism, the residents of Gaviotas Sur were not unaware of the injustices involved in flood governance.

Alongside institutional strategies of governance, the social movements operating in Villahermosa created mobile networks of contestation, based on a view that what moves cannot be captured so easily. Schlosberg uses the Deleuzian metaphor of rhizomes to explain such grassroots movements, which spread underground and connect in ways that are invisible from above.[75] In Mexico, social-justice advocates have learnt to work with mobile networks and ephemeral tactics to confront the government's intimidating measures to deal with open protestors.[76] This is especially true in Tabasco, where, due to the region's crucial role in the oil production, the government tends to dilute political mobilisation either by persuasion or force. These fragmented networks of environmental and social-justice turn up and disappear depending on conditions because, as Ronaldo, a social-justice advocate who criticised the forced removal of informal residents explained to me, 'such irregularity makes it difficult for the authorities to know who exercises alternative agency and how'.[77]

Other factors that shape the formation of dispersed networks of everyday resistance in Villahermosa include the long-standing structures of segregated urban policy and planning. These structures feed localised community demands, rendering cross-city and cross-class alliances for resistance movements purposeless. In the government's relationship with such mobile contestations, there is a 'continuous attempt to govern those who evade

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[74] Nancy Scheper-Hughes, 'Parts Unknown: Undercover Ethnography of the Organs-Trafficking Underworld', *Ethnography*, 5: 1 (2004), p. 45.

[75] David Schlosberg, *Environmental Justice and the New Pluralism: The Challenge of Difference for Environmentalism* (Oxford: Oxford University Press, 1999), pp. 96, 120.

[76] Nicolas Mathias Risdell, 'Un crimen a la tierra de Morelos: Agravio, conflicto y justicia ambiental 2006– 2011', unpubl. PhD diss, Escuela Nacional de Antropología e Historia, México D.F., 2012.

[77] Author's interview, 2 Aug. 2011.

being governed through rhizomatic networks'.[78] This situation indicates that these mobile efforts to contest governance that incorporates people unevenly into neoliberal policies and economies are strategic, even though this agency rarely manifests itself in the form of organised movements.

Conclusion

Urban environmental governance is a rapidly evolving research field, with high relevance for academic and public-policy understanding of governance, power and politics. The complex relations between the state and the urban poor have been the subject of rich academic analysis.[79] This study has amplified this field by analysing the positions forged by neoliberal flood governance for socio-economically differentiated residents in the socially segregated but dynamically interconnected city of Villahermosa, Mexico. The social-spatial distribution of risks and vulnerabilities and the multiple intersections between elite, middle-class and low-income residents have rarely been included in studies of urban governance.

This study has demonstrated how dominant discourses and political practices constituted strict categories of governable spaces and governable subjects. This produced socio-spatially differentiated strategies of flood governance within the city. Neoliberal techniques of governance were strategically mixed with legacies of authoritarian control and clientelist relations, producing complex mélanges. The state maintained a crucial, if reconfigured, role in flood governance as strategic decision-making and financial resources remained in governmental control. At the same time, the hybridity of governance blurred the divisions between the state and the market, while promoting civic participation in strictly

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[78] Weszkalnys, 'A Robust Square', p. 258.

[79] Auyero, 'Ínvisible Fists'; Bogaert, 'The Problem of Slums'; Nielsen, 'Inverse Governmentality'.

defined terms.

As Swungedouw notes, participation is one of the key arenas where struggles over governance are now fought.[80] Through strategic entwining of technological flood control with programmes of civic involvement, flood governance was turned into an issue of cultural adaptation and social resilience. The government's aim in such social-learning mechanisms, in my view, was to shepherd local residents towards neoliberal governance, where indirect governmental oversight, market-based regulation and civic self-responsiblisation would promote socio-spatial order. Environmental vulnerability was seen as rooted in the cultural attitude of the informal residents, who, according to officials, needed to adopt new modes of self-provision. This emphasis on self-improvement shifted the responsibility of flood-risk governance from the government to the citizens, while the hybrid modes of regulation insulated the acts of governing from public scrutiny.

This study has complemented post-Foucauldian views of governance by combining the analysis of flood-governance strategies and practices with an ethnographic inquiry on the everyday negotiations and contestations around governance and subjectivity. A careful analysis of different city sectors enabled an exploration of how different groups of residents interpreted and reconfigured the socially differentiated discourses and practices of flood governance. It showed that local residents were not passive targets of institutional interventions. Although the meanings they attributed to risks and vulnerabilities were strongly shaped by prevailing flood discourses, diverse inverse tactics were evident in different neighbourhoods. Dynamic intersections within the city both ruptured and sustained its socio-spatial segregation.

Through focusing on social differences and the gap between what is attempted and what is accomplished, this study has demonstrated how rationalities of flood governance

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[80] Swyngedouw, 'Governance Innovation', p. 1993.

are constantly being modified.[81] Through attention to the multi-vocal perspectives of socially dispersed residents, the study revealed the diversity of tactics through which the residents contested institutional endeavours to govern how they should think and act. At the same time, it demonstrated the uneven access to resources and networks of influence, as well as the fragmented nature of subversive strategies in a context where organised protests were institutionally discouraged. Despite strong efforts to render certain actors and ways of life governable, the dominant discourses and practices of governance were unable to eradicate dispersed contestation efforts.

Given the unprecedented risks, uncertainties and vulnerabilities affecting increasing population in Southern cities, a thorough understanding of the differentiated forms of neoliberal governance and their dynamic contestations in diverse circumstances is crucial. In urban theory, such analyses can provide important insights into the socially differentiated nature of governance and contested struggles over subjectivity. At the same time, it can contribute to wider discussions concerning the multifaceted relations between governance and justice, material vulnerability and symbolic domination, and institutional responsibility and inverse citizenship.

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[81] Tania M. Li, *The Will to Improve: Governmentality, Development and the Practice of Politics* (Durham, NC: Duke University Press, 2007), pp. 1–6.

Figure captions

Figure 1. The study sites and the settlements located in the critical risk zones in Villahermosa (modified from the Map Zonas de Alto Riesgo de Inundación, Gobierno del Estado de Tabasco, 2010).