

Flooding in the City of Immigrants_Elmhurst and Darmastuti

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Flooding in a city of migrants: ethnicity and entitlement in Bandar Lampung, Indonesia

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Introduction

Indonesia is marked by historical and contemporary migrations associated with changing regimes of environmental governance and access to land and livelihood resources. Nowhere is this more in evidence than in the city of Bandar Lampung on Sumatra's southern-most tip, where waves of migration from many different parts of the Indonesian archipelago have created a diverse socio-ecological urban landscape. In this chapter, we examine how historical migration, and the social geographies these forms of mobility have produced, have shaped vulnerability to flooding and responses to flood events. The chapter adopts a political ecology framework through which we explore the ways historical migrations prompted by precarity and conflict in other places have on the one hand shaped contemporary vulnerability to flooding, but at the same time, have enabled the maintenance of extra-local ties that provide capabilities for dealing with flood hazards among at least some of the urban population.

The chapter shows that historical migrations and associated ethnic networks not only shape the contours of everyday precarious livelihoods and how these are addressed in the context of flooding but also the political capital people are able to actualize at very localized scales to attract assistance of various kinds. Migration and ethnicity carry particular significance in Lampung, and this has been amplified following the devolution of previously heavily centralized political and fiscal authority to regional and district levels following the reforms of the late 1990s. Whilst the importance of ethnicity in shaping politics in Indonesia is the subject of intense debate (Schulte-Nordholt, 2008), there is general agreement that a form of 'soft ethnic politics', often figured around peoples' notions of 'place of origin', inflects political capital and the operation of patronage in multi-cultural provinces like Lampung (Aspinall, 2011; van Klinken, 2009). The chapter shows how this works at a very localized, everyday scale, and how this demands that the city is understood as 'relational' – a product of layer upon layer of different sets of linkages, both local and to the wider world, its social landscape woven out of a distinct mixture of wider and more local social relations (Massey, 1994).

The city's migration history and resulting social geography originates in early migrations associated with the pre-colonial and colonial pepper and spice trade, the state-sponsored resettlement of landless Javanese, Sundanese and Balinese farmers from heavily populated islands of Java and Bali in the late colonial period and early twentieth century, and settlement in coastal areas of sea-faring Bugis originally from Bone in southern Sulawesi. As an economic and political focal point for the province, the city of Bandar Lampung is emblematic of this historically-sedimented ethnic diversity. In recent years, the city's cosmopolitanism has been

extended through newer migrations, including the continued circulation of people between the city and West Java and Banten provinces, facilitated by better overland and sea transport links, and increasingly, migration from the city's rural hinterland by those displaced through enclosure and changing resource governance elsewhere in Lampung province itself. The city now has a population just short of a million (BPS, 2015). Its economy is based on a mix of manufacturing (agricultural processing) and services (transport, port services), combined with small scale fishing, plantations and food crop agriculture, and this combination has produced a mix of peri-urban landscapes coupled with high density residential development focused on the merger of three centers (formerly separate towns) – the port of Teluk Betung, the international shipment port of Panjuang and the inland commercial hub of Tanjung Karang.

Amidst a landscape of socio-economic change, Bandar Lampung experiences regular flood events. These are linked in part to its physical geography, situated on the coast and surrounded by steep hills. The city is also subject to a tropical monsoon climate, and experiences intense and heavy rainfall particularly from December to April, where levels can be up to 185mm per day. Observers suggest that this rainfall is becoming more erratic, and that pronounced seasonality is being replaced by heavy rain at any time of year.¹ Floods are associated with the two large rivers (Way Kuala and Way Kuripan) which pass through the city, as well as with the city's 23 smaller rivers. Some of this flooding is attributable to sea water inundation in areas on the coastal fringe (e.g. in Teluk Betung). However, in other parts of the city, floods are associated with high rainfall, rapid urbanization and land use change, and inundation caused by the low capacity of drainage systems to remove excess surface water (e.g. in Tanjung Karang). These floods regularly cause damage to property, disrupt already fragile livelihoods, and may be linked with health hazards. Many of the city's poorer neighborhoods are located on the banks of rivers and in the lower lying poorer areas of the city close to the coast.

Bandar Lampung is regarded as 'at risk' from climate change (BAPPENAS and ICCR, 2010; 2014; Lassa and Nugraha, 2014). In recent years, the city has been a focus for international and national efforts to build resilience to climate change through an initial vulnerability analysis, and through better urban management, capacity building and environmental education efforts. Much of this work has been led and coordinated by the Asian Cities Climate Change Resilience Network and its partners (Brown et al., 2012; Friend et al., 2015; Lassa and Nugraha, 2014; Taylor and La 15 2015), and Bandar Lampung features as one of the pilot cities in the Indonesian government's National Action Plan on Climate Change Adaptation (BAPPENAS, 2014). This work is careful to acknowledge the prevalence of generations of migrants among the city's population impacted by climate change, but its focus has been on capacity building among stakeholders – policy makers, planners, decision-makers, community leaders and educators – with regard to climate resilience, rather than in analyzing how migrants and migration figure within this.

While the research discussed in this chapter was conceived independently and had no direct link with the climate change resilience projects being undertaken by ACCCRN and partners in Bandar Lampung, our aim has been to complement this work, by focusing explicitly on the interconnections between migration, vulnerability and urban floods. Our starting point is that migration histories are intertwined with the wider social and political ecological processes contributing to both vulnerability and capability. Thus, a mobile political ecology of flooding requires the city to be viewed as a relational space rather than as a specific territory (or, in the context of floods, a hydrological basin) but instead as a product of historical layerings that continue to be significant in shaping people's local and extra-local economic, cultural and political connections.

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The chapter is structured as follows. In the next section, a brief summary of the research methodology and an overview of the study sites is provided. The section that follows outlines the city's migration history, and the implications this has for social geographies of vulnerability. Remaining sections explore the ways in which historical migration inflects trade-offs between exposure to flooding, access to employment and tenure recognition, and the ways in which people are able to command networks of solidarity and support to address flood impacts, and associated vulnerabilities.

Research methods and study sites

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Primary research for this study was undertaken in August and September 2013 using a mixed methods approach that combined both qualitative and quantitative data collection tools in three urban villages (referred to in Indonesian as *kelurahan*) located in different parts of Bandar Lampung city.ⁱⁱ Whilst the study sites coincided with areas investigated in the ACCCRN studies (Lassa and Nugraha, 2014; Taylor and Lassa 2015), our aim was to complement rather than replicate the analyses being undertaken by that group. Research focused on the urban villages of Kota Karang, Kungkung and Pasir Gintung. These were selected because of their contrasting migrant profiles, and according to their characterization as areas subject to flood risks of different kinds (Lampung Disaster Preparedness Board (BPBD), 2013; ACCCRN, 2010). All three neighborhoods are relatively low income and security of housing tenure is low.

<FIGURE 8.1 HERE>

Kota Karang is located in Teluk Betung (the port area) to the south of the city on the edge of the Way Belau river and has frequent experience of river and tidal floods. It is home to long-term Bugis 'migrants' originally from Sulawesi, who maintain some ties with Bone, Sulawesi, regarded to some extent as a 'homeland'. Livelihoods focus on sea²¹ fishing and labor in the fish market, alongside casual labor of various kinds. Kungkung is also located in the southern part of the city, but directly flanks the coast. It also has frequent experience of river and tidal floods.

Much of the settled area is on recently reclaimed tidal land. It is home to low income urban migrants, and strongly associated with fishing and other natural-resource based livelihoods. Pasir Gintung is located inland in a hilly part of the city traversed by one of the city's smaller rivers, the Way Awi. It is subject to landslides and flash floods. It is home to low income urban migrants, originally from Java, who are involved in informal sector livelihoods, including trade associated with the city's 24 hour wholesale vegetable market, which is located close by.

Data collection began with three key informant (KI) interviews with community leaders in each location to get a sense of the vulnerability profile of the area, including migration histories, recent experiences of flooding, engagement with city and central government for rebuilding and adaptation, and a broad outline of the social characteristics of the community. In particular, topics around contemporary migration and the existence of multi-local livelihoods were explored.

Secondly, a focus group discussion (FGD) was held in each community with approximately 10 invited key informants representing different community organizations (including the youth group, women's group and sub-neighborhood leaders). Topics covered in the FGD included migration histories, recent experiences of flooding, coping and adaptation strategies, obstacles to overcoming flood hazards, and the extent and efficacy of multi-local livelihoods. The latter topic proved particularly challenging for groups to discuss: reflecting the ways that migration in its various forms is played down in public and private discourse, and everyday practices of moving between spaces within and beyond the city are rarely articulated as 'migration' when this term tends to be associated with cross-border movement. Following this, greater attention was paid to the role of social capital: the kinds of patron-client networks evident within communities, and the ways in which such networks are shaped by area of origin and ethnicity at different levels.

Finally, a survey was undertaken, with a sample of 100 households in each urban village, defined in the study according to administrative boundaries. As far as possible, respondent selection was random, but in the absence of a population sampling frame, a particular effort was made to include those living in more marginal and difficult-to-access parts of each locality. A number of respondents in each community were selected to participate in an in-depth interview to explore the links between migration, floods and vulnerability in an unstructured way. All surveys and interviews were undertaken and analysed in Bahasa Indonesia. Transcripts from the FGDs and key informant interviews were analysed using thematic coding that linked to the conceptual framework (see Chapter 1). Secondary data from the Bandar Lampung bureau of statistics was also analysed, with an emphasis on data concerning urbanization, population change and migration. Each of the tools sought to uncover the historical relationship between migration and landscape change at the basin level and beyond, the experience of flooding in terms of vulnerability and capability to address this; and how engagement in migrant-ethnic networks shape experiences of and responses to urban flood events.

Histories of vulnerability, migration and urban development

The importance of migration as a strategy to address vulnerability has been well-established through numerous studies (de Haas, 2012). Types of migration may involve displacement (due to conflict or sudden onset environmental hazards), managed resettlement by governments or other agencies to address landlessness (e.g. the Indonesian government's transmigration program) or through self-managed relocation to improve livelihoods. The history of Bandar Lampung city is tied up with all three of these types of migration, beginning with migration associated with the pre-colonial spice trade. During the mercantile period, the area which now forms the city was part of the sultanate of Bantam (centered on West Java and including the area which has now split off to form the province of Banten). During this period, movement into the port of Teluk Betung (now incorporated into Bandar Lampung city) revolved around the circulation of commodities, and included Bugis maritime traders from Sulawesi. Migration to Lampung from Banten began as early as the 17th century, establishing a migration stream that continues to this day, evidence for which is most notable in the urban villages of Kangkung and Kota Karang (in which people identifying as Bugis are clustered).

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Under the influence of the Dutch East Indies company (*Vereenigde Oostindische Compagnie* or VOC), and later the Dutch colonial authorities, the port of Teluk Betung was established as the administrative center of the colonial district of Lampung in the mid nineteenth century (1851). Migration to new areas does not necessarily result in reduced vulnerability: in August 1883 the eruption of nearby Krakatoa killed 36,000 people in total: the Bay of Lampung was devastated, and a wave reaching 20 metres in height wiped out much of Teluk Betung and its inhabitants, many of them recent migrants. The restoration of the port as a population center continued into the late colonial period, and Teluk Betung's character as a 'city of migrants' became most apparent by the 1930s, when according to the colonial census, the population expanded through in-migration. This included inter-island migrations of Bugis (from Sulawesi), and Javanese, Madurese and Sundanese/Banten (from Java).

These migrations reflect a need to address economic and political vulnerabilities in places of origin, but in different ways. First, migration from Java was largely associated with the Dutch '*Kolonisatie*' resettlement program. Whilst this was largely a rural phenomenon involving the provision of land to landless farmers from Java, Madura and Bali, *Kolonisatie* (and the post-Independence transmigration program that followed) had a marked impact on urban growth and the ethnic profile of the city. In the 1930s, large population densities were found in the Teluk Betung area, corresponding with the arrival of landless Javanese migrants. According to the census of 1930, within the district of Teluk Betung, 62% of its 25,000 strong population was Javanese (from Central and East Java) and Sundanese (from West Java), including a proportion

from Banten (Sevin 1969). Secondly, migration of Bugis people from south Sulawesi in the 1960s was associated with the civil war that devastated large parts of South Sulawesi from 1950 to 1965, and where people had been subject to violence from both the Indonesian national army and Islamic separatist forces (Accialoli, 2007). Many of the respondents in the urban village of Kota Karang had originally come to the city from Bone and Wajo as internally-displaced people in the late 1950s and early 1960s, after having spent some time in a refugee camp in North Java. Thirdly, second generation transmigrants unable to find land because of the closure of Lampung province's agricultural frontier and the establishment of forest protected areas from the early 1980s onwards (Elmhirst, 2012), prompted further migration into the city. This, combined with unprecedented migration from Java (often based on kinship ties with former transmigrants) by people seeking to address precarious livelihoods contributed to a trebling of the city's population in the decade between 1980 and 1990. For some older participants in Pasir Guntung, migration to the city from rural areas of Lampung province was itself part of a strategy to mitigate vulnerabilities produced by changes in resource governance in rural areas. Thus, a complex history links enclosure, economic precarity and conflict in other regions of Indonesia with migration for improved livelihoods, and the geographies of these migrations have given shape to the social and ethnic profiles of the three study areas, as summarized in Table 8.1.ⁱⁱⁱ

<TABLE 8.1 HERE>

These past migrations have contributed to the changes Bandar Lampung has seen over recent decades. While in-migration has historically contributed to the social geography of Bandar Lampung and its urban villages, unlike the Hanoi or Manila cases (Chapters 6 and 7 in this volume), contemporary urban landscape change is not attributable to any sort of current large-scale in-migration of the sort planners and urban managers tend to see as a problem (Tacoli, 2009). Rather, the city's recent growth and expansion results from a combination of natural population growth and the extension of built-up areas into surrounding peri-urban and rural communities. Bandar Lampung's changing economy, its role as a regional center, and wider changes in urban lifestyles and consumption practices, particularly among a growing urban middle class, have in turn brought significant land use change, and it is this, rather than rapid in-migration, that is associated with the increased frequency and impacts of urban floods.

Land use change has largely involved the conversion of forested slopes and low-lying marshland for housing, retail and industrial development (Utoyo, 2015; BPS 2013).^{iv} The built-up area of the city continues to expand, having grown from 620,979 hectares in 2008 to 664,058 in 2012 (BPS 2013), creating a blurring between villages and the city as the former are incorporated. As is the case with other small and medium cities in Indonesia, this brings a juxtaposition between urban and rural activities in seemingly heavily urbanised spaces (Firman, 2003; Tirtosudarmo, 2013). The expansion of the city's built-up area westwards and northwards is in part associated with the city's population growth, but it is also attributable to construction of middle class

housing on larger plots of private land, in areas of the city such as the area of Way Halim to the north.

Aside from housing development, there has also been a proliferation of shopping malls and shophouses (known locally as *rumah-toko*), and hotel construction, on occasion in areas close to rivers where building is prohibited under local regulations. Overall, as is the case in many fast-growing small and medium-sized cities in Southeast Asia, all urban residents must contend with severe urban housing, infrastructure and service deficiencies as well as various forms of urban congestion (Tacoli et al., 2015). Communities taking part in this study saw themselves as having to contend with the downsides of rapid urban development. High levels of intra-urban mobility are required because of the geographical separation between residential areas and areas where most economic activity is located (Malik, 2013), and this has continued to encourage road building as a politically popular effort to ease pressures. The impact on city dwellers of Bandar Lampung's traffic problems means road development is one of the most politicised issues in Bandar Lampung, for which many politicians fight for policies, programs and funds, and expenditure is higher on this sector than on flood prevention measures.^v In the absence of a mass transportation system in a city with almost a million inhabitants, private ownership of cars and motorcycles has mushroomed, enabled by relatively low-cost loans that allow people on low incomes to buy motorcycles.

Rapid and unplanned urban development in Bandar Lampung has contributed to flooding in recent years, which results from a combination of intense seasonal rainfall patterns, landscape topography, and recent land use changes within the city and at basin level. Specifically, flooding is compounded by the expansion of impervious surfaces (surfaced roads, areas given over to housing development), coupled with poor drainage systems. Moreover, urban activities (particularly poor waste management) compound the problem as water ways become blocked with rubbish and therefore flood on a frequent basis (Lassa and Nugraha, 2014). Two of the study areas, Kota Karang and Kangkung, experience a combination of run-off and tidal floods, which, according to study participants, was due to poor waste management, and a need to keep dredging the river so water can easily flow (Table 8.2). Other kinds of flooding were the focus of study participants in Pasir Gintung, where housing development and deforestation of slopes in the past has also meant that run-off from rainfall in the hills that flank the city is not slowed down by vegetation. This has exposed the community to frequent and powerful flash floods. In addition, the area's steep hill slopes coupled with intense rain means that landslides are common.

<TABLE 8.2 HERE>

A widespread public discourse around the causes of flooding in Bandar Lampung local media has meant that people in the study communities were clear in their explanation of how urban development had brought specific types of flooding to their respective neighborhoods. However,

it is the combination of urban development patterns and the specific nature of floods that produce a range of experiences and responses in the three study areas. The next section of this chapter explores how social geographies produced by past migrations underlie experiences of flood risk in the urban villages of Kota Karang, Kungkung and Pasir Gintung.

Contemporary social geographies and vulnerability to urban floods

There are some common features to vulnerability in each of the study communities, taken here to mean “the social precarity found on the ground” when the floods arrive (Ribot, 2014: 667). In terms of material and economic vulnerabilities, all three areas are relatively low income. Whilst figures are not available at village level, there is data on poverty for the administrative sub-districts (*kecamatan*) in which each urban village is located, namely in Teluk Betung Barat (Kota Karang), Bumi Waras (Kungkung) and Tanjung Karang Pusat (Pasir Gintung). The Indonesian government’s SUSENAS 2015 poverty and well-being survey shows that 32% of households in the sub-districts in which Kota Karang and Kungkung are located, and 23% of households for the relevant sub-district for Pasir Gintung, fall into the lowest category, defined as ‘poor’. This means they are unable to meet one of five basic needs (food, shelter, clothing, health, religious practice) (BPS, 2015). Households in these categories are likely therefore to be vulnerable to shocks such as food price increases, ill health and factors that reduce income generation capacity, making them vulnerable to the impacts of flood events.

A closer examination of how precarity is constructed in each community, however, reveals a more nuanced social geography, which reflects the interplay between work and livelihoods, risky living spaces, and ways of living with floods that may paradoxically build security in otherwise precarious circumstances. In both questionnaire responses and focus group discussions, lack of regular paid work was by far the most important immediate source of vulnerability noted by study participants.^{vi} Participants suggested that employment opportunities are restricted, and this accords with secondary data sources which show Bandar Lampung has relatively few large-scale industries that might provide formal sector wage work. Middle class employment opportunities tend to hinge around work within local government, education and non-government organizations, while the expansion of retailing has also brought employment opportunities.

Most people in the study areas are engaged in what might be defined as rural employment (as laborers on off-shore fishing boats, in fish processing and trading), alongside urban informal sector employment (market trading, small shops and street food vending) and laboring jobs.^{vii} There is a strong association between area of origin (which maps broadly onto ethnicity) and employment. Whilst in focus group discussions people associate this with the ‘characteristics and orientations’ of particular ethnic groups (e.g. “Banten people like physical work, Javanese tend to be more cerebral and business-oriented”), the survey data suggested this pattern was more a reflection of the social networks through which people find work and support each other, a

feature common to many low income urban areas (Carpenter et al., 2004). For example, in Kungkung and in Kota Karang, the main types of work associated with people with family origins in Banten (western Java) relate to the fishing industry (as laborers on fishing boats, as building workers, fish market laborers and in garbage removal). Women also work in the fish market and in processing fish. Work tends to be casual and precarious, and when there is no work locally people will go to work in other parts of the port area of the city, in warehouse jobs or in the fish auction house. In Kungkung key person interviews suggested that education attainment in the area was relatively low because so many children were also drafted in to work to supplement precarious household incomes.^{viii}

By contrast, in Kota Karang, Bugis people originally from Sulawesi, work in slightly better paid jobs also in the fishing industry, and most of the owners of the large fishing boats in Kota Karang are Bugis. Other employment is in retail or small businesses. In Pasir Gintung, populated largely by Javanese and Sundanese descendants of transmigrants, livelihoods revolve around informal sector work and trade, and are focused on the wholesale vegetable market that serves the whole of Tanjung Karang. The market is open all hours so men and women tend to work together, men at night and women during the day, taking it in turns. Women may also work selling cooked foods or by having a small shop at the front of the house (*warung*). Because of its location close to the commercial center of Bandar Lampung, Pasir Gintung is a sought after area for informal sector workers, and family and neighborhood social ties continue to be the main way through which people gain access to work in the area. In focus group discussions, the area was described as “a little Jakarta”, reflecting the possibility of economic opportunity afforded here. There has been a direct impact of dangerous flash floods on livelihood security in Pasir Gintung for some members of the community. According to survey responses, several households had sustained damage to their *warung* (small shops) because of the flash floods, meaning they had lost stock and had to rebuild portions of their property. However, for this community, dealing with floods is a risk worth taking because of the advantages of living close to the commercial hub of the city and reducing travel costs, which as the preceding section has suggested, is an important consideration in a city with limited public transport infrastructure.

In the other study areas, the precariousness of casual employment is worsened during floods, which at certain times of the year can have an acutely damaging impact on household livelihoods. First, this is due to having to take time off to clear up, as suggested by survey participants in Kungkung for example, who regularly experience floods associated with heavy rain and high tides, limiting their availability as laborers at the fish market or on fishing boats. Secondly, floods restrict peoples’ ability to maintain the connections needed to acquire work. In Kota Karang, focus group participants said most work was acquired on a daily basis, requiring the maintenance of social networks linking neighborhood and workplace. Finding work in other parts of the city was more difficult because of limited social ties. It was also noted as being expensive and time-consuming as travel costs and income lost to travel time needed to be factored in to overall costs. Finally, where people did need to commute to work places further

afield, regular surface flooding added to the difficulties of crossing an already congested city with limited public transportation. The impacts of floods on everyday mobility is a critical issue for all residents of the city, but particularly for those on relatively low incomes who are unable to afford vehicles capable of safely traversing the flooded city.^{ix} Responding to this, one dealership in Bandar Lampung is marketing the 'Honda-Beat-Flood' motorcycle, which is designed for driving through floods (Saibumi.com, 2015). This is thus one of the reasons why people continue to live in otherwise 'risky' flood-prone areas in the downtown area Pasir Gantung and the port/warehouse areas of Kangkung and Kota Karang, in an effort to avoid livelihood vulnerability, but being exposed in turn to geographical vulnerability.

Turning to vulnerabilities relating to security of tenure, whilst these are long-established communities created through historical migration flows, ongoing work is required by those on low incomes to maintain a "space" in parts of the city that afford the benefits of localized kinship networks and access to employment opportunities. Studies from elsewhere have highlighted the contribution that insecure land tenure makes to vulnerability in the context of urban environmental hazards, such as floods (UN-HABITAT 2010, Baker, 2012). Voorst and Hellman's (2015) study of flood responses in riverside settlements in Jakarta highlights the very specific issues evident in 'illegal' settlements where severe flooding is a regular occurrence. However, in the three communities studied here, the question of legality was somewhat ambiguous. Few households in any of the three study sites are in possession of official certification for their housing, and instead, hold a letter of recognition (*surat keterangan*), which has been issued by the community leadership. This is a form of tenure that is recognized by the community, but not formally recognized by the state. Thus, rather than there being a clear-cut distinction between legal and extra-legal forms of tenure in the communities, there exists instead a continuum of formal and informal tenure rights (Reerink and Van Gelder, 2010).

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The right to space in this form is akin to what von Benda-Beckmann et al. (2006) refer to as a bundle of rights, that includes the right to reside over time, to construct, and to be present in a particular space. Forms of mutual recognition in claiming space range from physical edifices, land tax receipts and the maintenance of particular sets of relationships (with different government agencies, with community leaders). For example, in Kangkung, even the government building that houses the urban village administrative leader's office (*kantor kelurahan*) does not have official tenure. As Nurman and Lund have written with regard to urban tenure in Bandung, West Java: "security and certainty of tenure are less a question of right and wrong, and more one of actively building a contextually persuasive argument and of establishing as many relations of effective recognition by significant institutions as possible" (Nurman and Lund, 2016: 48). In the study sites, these relations of recognition are more readily realized through kinship and neighborhood linkages that relate in turn to a sense of common migration history expressed in the built environment as well as in participation in neighborhood associations (examined in a later section).

In Kota Karang, most people regard themselves as rightful owners of their properties, and the neighborhood is not regarded as a 'squatter area' by residents themselves.^x Over time, people have built wooden elevated houses in areas flanking the river and coast. These traditional houses, known as *rumah panggung*, are familiar in coastal areas across Indonesia, particularly in Bugis communities, and are designed especially for living on the edge of the sea, with the ground level used as a storage space for fishing gear. Relations of recognition are clear in the levels of state social provision that exist in the area. This includes the provision of physical infrastructure, for example in the construction of flood defenses and dredging of the river to prevent the banks from being breached.^{xi} It is also evident in 'soft' forms, for example, the provision of a regular a family clinic, but importantly, also in peoples' inclusion in the electoral roll. When there was a proposal to relocate households from flood-prone areas of Kota Karang as part of a plan to create a 'waterfront city' in Bandar Lampung, a successful protest and lobbying enabled people to stay put.^{xii} However, as was expressed in FGDs and through the survey, people living in traditional houses on the edge of the river did not want to be moved because ¹⁷ there was nowhere in the new houses for them to store their fishing equipment and the units were too small to accommodate the very large families most fishermen have. Subsequently, a new mayor took up office, whose approach to city management was considered to be more inclusive. The program was halted on the grounds of being too expensive, and because it was unpopular with the electorate in areas from which people were to be evicted.

In Pasir Gintung there has been a similar if slightly more ruptured process of incremental recognition as the area has become established. Much of Pasir Gintung is located on land "belonging" to the railway company. The status of this kind of land is very unclear in Indonesia. Following independence, railway property established by colonial authorities became '*tanah negara*' or state land. However, privatization of Indonesia's railways meant the land was ceded to the railway company. However, according to key informants and also from the FGD in Pasir Gintung, the community is on *tanah adat* (customary land of the original Lampung clans). Describing a similar case in Bandung, Indonesia, Nurman and Lund write: "who held the rights to the land was far from a settled fact; it became a fact to settle" (Nurman and Lund, 2016: 49). There are ongoing disputes with regard to tenure, and in recent years, a public hospital won its case against the railway company enabling it to remain on the site. Acceptance of this legal ambiguity in the area appears to be widespread, with some investment in flood management by local government to protect houses that seemingly have no tenure. The community itself has established its 'recognition' through community-level flood adaptations including construction of walls to protect housing areas, the creation of a community garbage collection and clearing service, and establishing a warning system: a loudspeaker from the Mosque warns of immediate prospect of a flash flood so people have time to prepare and get to safety.

One of the biggest challenges in both Kungkung and Pasir Gintung is how to "create space" for second and third generation households as both areas have acute land shortages and are highly sought after because of their proximity to work opportunities. "Creating space" has thus led

people to inhabit ostensibly risky spaces, and it is therefore among this group that the combination of urban environmental hazards and informal tenure security leads to particular forms of precarity. In Pasir Gintung, overcrowding, and a desire to avoid the flash floods in the lower elevations of the neighborhood, has meant people have begun to build on steeply sloping land to the west of the Way Awi river. This land is regarded as customary land (*tanah adat*) by local Lampung people, and the right to inhabit is the outcome of negotiation between the people of Pasir Gintung and *adat* (customary) leaders. Whilst this area affords the advantages of being close to livelihood opportunities, landslides are commonplace, damaging property and risking lives. In the coastal community of Kangkung, land shortage has led people to attempt to reclaim land from the sea, by building low walls that are then infilled with waste to create “land” on which simple wooden houses can be built. Although there is no formal recognition of tenure on this reclaimed land, those living here have been able to mobilise the kinds of relations needed for tacit recognition, which includes access to government resources (including social safety net payments), and thus a perception that the current city mayor is unlikely to relocate them.

In contending with floods, those residing in the three study communities are being squeezed on the one hand by urban development, limited work opportunities, traffic congestion and poor infrastructure, and on the other, by the impacts of flood events. In each case, a trade-off is made between exposure to flooding and the livelihood advantages afforded by each of these localities in a context where commuting is expensive, time-consuming and frequently disrupted by surface water flooding. Whilst limited security of tenure contributes to overall vulnerability, the complexities of tenure arrangements in these areas of Bandar Lampung, which is similar to other cities in Indonesia, provides an opportunity to secure ‘space’ through relations of recognition. To some degree, material adaptations to floods are one way in which recognition of entitlement is being signalled. with informal sector jobs. The next section of this chapter considers the role social networks play in this regard, including those relating to migration-related solidarity and lines of patronage through which people access support and assistance after flood events.

Ethnic and migrant networks in dealing with flood hazards

Within communities created through historical migrations, social networks are significant in two related ways, first, through extra-local ties that connect urban communities with the places from which people (or their forebears) originated, but also through more localized networks through which people can mobilize material support in the face of floods or other livelihood shocks and stresses. In a multi-cultural city such as Bandar Lampung, historical migrations have a hand in shaping both kinds of networks, and in lending them an ethnic dimension. For example, in Kota Karang, more than half the community has family origins in south Sulawesi, and these connections are still evident in terms of how people identify (as Bugis), and how they relate to others, including decision-makers, within the community.

Other studies have demonstrated how extra-local ties may play a role in helping households mitigate vulnerabilities, by spreading labor across a number of sites, or in mobilising resources (financial capital, social capital) from different geographical locations (Rigg , 2012). During Indonesia's economic crisis, these kinds of extra-local networks were important in low-income communities when dealing with financial insecurities and job losses (Silvey and Elmhirst, 2003). In the study areas, however, the extent to which extra-local ties could be mobilized for dealing with floods was very context-specific. In Kungkung, for example, Banten respondents described the connections they maintained with relatives back in Banten province in Java as important – during Idul Fitri at the end of Ramadan, many people return to their areas of origin to visit family, and they sometimes return to the city with relatives looking for work as fishermen. At the same time, many families sent their children back to Banten to be educated in pesantren in Java, making use of kinship networks to do this (and thus altering the dependency ratio of children to adults in their households).^{xiii} In addition, some households included family members working overseas as migrant workers in the Middle East (in construction, as domestic workers), but there was limited evidence of this having a financial impact on flood responses. Family ties were important for maintaining morale during and following floods, but that there was limited prospect of relatives providing material help “because they are even poorer than we are” .^{xiv} During floods, people were more include to look to close relatives and neighbors for help.

A similar pattern is found in Kota Karang, where the community maintains links to places of origin, in this instance, for Bugis people the connection is with Bone and other areas in south Sulawesi. Although the distances and cost of travel are much greater for Bugis people than for those originating in Banten, there is still a tendency for even very low income people to make the journey back to Bone for Idul Fitri. Solidarity networks are more visible in this community through the *Kesatuan Keluarga Sulawesi Selatan*, a family ties organization akin to a hometown association, which facilitates annual visits back to Sulawesi, and which offers social solidarity if there is a death in the family. Key informants noted that this organization also provides social support and solidarity in response to flood impacts, and during the last serious flood, organised a group visit (from Sulawesi to Kota Karang) to inspect the damage, and provide social attention and support: an informal means of empowerment and ‘visibilization’ of the community.

A different formation of extra-local ties is found in Pasir Gintung, which relates to the migration history of the families residing in this area. Almost all the residents surveyed originated from Java, including areas such as Banten, West Java and East Java, but many had also come from rural areas in Lampung province to which their families and forebears had moved as part of the Indonesian government's transmigration resettlement program. According to responses in focus group discussions, there is limited migration between the city and areas of origin, but, as was the case with the other areas, people retained a connection with their home area, to which they returned during Idul Fitri. However, in survey responses, it emerged that a number of households did maintain strong rural connections with other parts of rural Lampung, generally in the form of

land ownership. In one case, for example, the family had planted a small plot of rubber in the area from which they originated. It was guarded and cared for by a family member, and treated as a 'pension investment'. Thus, as a multi-local livelihood strategy, this represented an effort to mitigate vulnerability across the life course, rather than specifically as a strategy for coping with floods.

More localized networks of support are evident within the communities. These include both horizontal forms of social capital (access to support and assistance from neighbors and others in a similar socio-economic bracket) and vertical forms of social capital (more hierarchical access to formal kinds of support, assistance and compensatory payments, usually from government bodies, and some from politicians for electoral reasons). In each of the communities, these two forms of social capital converge around the role of the leader of the neighborhood association, the *Kepala Rukun Tetangga* (*Kepala RT* hereafter). This is the lowest tier of the state governance hierarchy – each urban village (*kelurahan*) comprises a number of *Rukun Tetangga* (RT) or neighborhoods. During the Soeharto era, the RT was part of a hierarchical system to surveil and control populations, and to transmit messages from government at regular meetings. As democratization has progressed in Indonesia, this has altered somewhat in that the head of the *Rukun Tetangga* (*Kepala RT*) is locally elected, but many top-down functions remain (Kurasawa, 2009).

In the study communities, the *Kepala RT* was seen as being closer to people than the urban village head (*Lurah*) and for that reason, played an important gate-keeping role in communications and actions relating to flood relief, including in assessing access to state resources of various kinds. In addition, the *Kepala RT* acts as a kind of 'broker' for communicating community needs back to local government (and, it should be stressed, to non-governmental organizations). The kinds of state 'resources' that are relevant in this context include social safety net payments such as the RASKIN program (*Beras Untuk Orang Miskin*, or Rice for the Poor), a program through which people qualify for a monthly allocation of 15 kg of subsidized rice. Observation and interview data in each of the study sites suggests that success in lobbying the *Lurah* (head of the village) and the *Kepala RT* depends on 'closeness' and being able to enact clientelist connections, many of which were more secure when there was a coincidence of family place of origin between the claimant and the village hierarchy. The *Lurah* and *Kepala RT* thus wield considerable influence at the community level in defining who has access to official safety nets and to disaster funds.

Qualification is based on poverty definitions as used in the SUSENAS survey (see above), and this is assessed in part by the *Kepala RT*. Payment is based on having an identity card, for which people qualify after six months in residence, and again this decision rests with the *Lurah* in consultation with the *Kepala RT*. In Kota Karang, for example, officially, about 75% qualify for RASKIN but what they decided to do in the *kelurahan* was to provide RASKIN to all but 5% of

the population, and to just divide it into 7kg per family, rather than the usual 15 kg, the idea being to make it go further. In addition, Bandar Lampung city government has a program that people can access to help them to repair their houses if damaged by the flooding. This ranges from Rp 500,000 to Rp 1, 500,000, and Rp 20 million if there is serious damage.^{xv} Accessing flood assistance is brokered through the kepala RT. In all three communities, the neighborhood head compiled a list of who had been affected, and this was then reported to the higher tiered head of the urban village. In Kangkung, following the floods last year, each person that was victim of floods received Rp 500,000 (approximately USD\$38) to help them restore their belongings. Reports from head of RT established which houses were affected and how they would receive money.

In other words, the most important vertical social capital is via the head of the RT – through this conduit people can access resources. In terms of how relationships between the head of the RT and the community relate to migration and ethnicity, across both horizontal and vertical forms of social capital, there is a strong sense of social embeddedness of patronage networks, as these are based around a sense of common origin and, by extension, ethnicity. In Pasir Gintung, the *Lurah* (head of the neighborhood village) was very active in mobilizing the community, but even here, the head of the RT was called upon to list those affected by floods, but also in distributing any aid. There was therefore the potential for exclusion of people who didn't feel 'close' to the *Ketua* RT or *Lurah*. In effect, ethnicity-inflected patron-client connections operate at these very close scales, e.g. the neighborhood / RT where the role of the RT de facto governed access to resources of various kinds, including flood assistance. It is at this scale that the politics of the flood-migration nexus is revealed, yet this is a scale that is generally below the radar in city government or NGO initiatives. RT leaders, through their everyday practices, take on a role as 'brokers', and this can lead to some inadvertent exclusions where certain members of a minority community may feel distant from the RT leader themselves. In sum, historical migrations and related social networks have sedimented a political geography at neighborhood level "which combines themes of 'traditional,' family-like ethnic or religious community with modern techniques of mobilization as well as an interest in capturing the institutions of the state" (Van Klinken 2009: 881), in this instance, actualizing the political capital needed to access state assistance including flood relief and social safety net payments.

Conclusion: Historical Migrations and Contemporary Vulnerabilities

As one of Indonesia's most multi-cultural medium-sized cities, Bandar Lampung is made through the layering of historical migrations. This chapter has suggested that the significance of these migrations continues to resonate through the city's social geography in ways that need to be taken account of when considering how to address the city's flood problems. As highlighted in Chapter 1, a political ecology lens enables attention to be centered on the processes and structures that give rise to and shape aspects of vulnerability and capability, and in this chapter,

migration itself forms part of that generative social landscape in a number of important and perhaps surprising ways.

First, the migrants who first settled in and around Bandar Lampung (and indeed those that continue to arrive) have themselves been displaced by political, economic and environmental shocks and stresses in other parts of the archipelago, often related to wider processes of accumulation, dispossession and political conflict that make in-situ livelihoods untenable. However, the contribution of in-migration to urban landscape change is relatively small compared to the broader impacts of marketization, investment and new consumption practices that underpin the growth of shopping malls, urban middle class housing and traffic jams. Precarious employment opportunities, infrastructure failures and limited space for housing close to commercial centers makes the city potentially 'risky' for those on low incomes. Thus, simple causal connections that could blame migration for creating the circumstances in which flooding has become more commonplace are misplaced in this context.

Secondly, historical migrations have led to ethnic diversity at very close scales, with particular groups clustering in specific neighborhoods, and this continues to be the case as social networks play a key role in enabling the urban poor to access jobs and for second and third generation migrants to access living space in the city that is close to where those jobs are located. What is evident is a complex interplay between different kinds of migration (migration to settle in particular parts of the city, a need for localized forms of mobility in order to access employment) and different kinds of floods, (e.g. seasonal, large scale inundations and flash floods that damage property, and the more regular surface flooding that disrupts daily commutes). In this context, 'making space' becomes an important strategy for people who need to live as close to employment opportunities as they can, even where this means living in places that expose them to floods.

Thirdly, historical migrations and the social networks that these have given rise to are significant in the work people must do to 'make space', through the establishment⁴ and maintenance of informal tenure security. Networks are drawn on as people establish **as many relations of recognition by significant institutions**, including representatives of government at localized scales (the *Lurah*, the *Kepala RT*). Everyday flood prevention measures are a concrete expression of this, seen in the investments people make in modifying their houses, and, at community level, in introducing warning systems and other flood management interventions (such as the embankment and desiltation project of Way Awi in Pasir Gintung). Confirmation of 'recognition' is also found in the flood defenses provided by the city government.

Finally, the intersection of historical migration, kin networks and clientelism at very localized scales – in terms of recognition and qualification for social support, including post-flood assistance – is illustrative of a need to consider how migration and ethnicity not only shape the

contours of everyday precarious livelihoods in Bandar Lampung, but also the political capital that people are able to actualize within their neighborhoods in order to attract formal assistance of various kinds.

For policymakers, there is a need for a more nuanced appreciation of the somewhat subtle ways in which past migrations remain significant in shaping vulnerability and in defining contemporary access to resources, often at very localized scales. This would be an important step in ensuring a just approach to addressing the causes and consequences of the frequent flooding that blights this rapidly changing city.

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ⁱ Based on comments made in focus group discussions in all three communities, September 2013.

ⁱⁱ The city of Bandar Lampung is split into administrative sub-districts (*kecamatan*), which in turn are comprised of a number of urban villages (*kelurahan*). Whilst the city is led by a mayor (*Walikota*) who is directly elected by popular vote, each level in the hierarchy below are led by civil servants (*Camat* and *Lurah* respectively).

ⁱⁱⁱ 'Precarity' is used here rather than vulnerability in that the term "explicitly incorporates the political and institutional context in which the production of precarity occurs rather than focusing solely on individualized experiences of precarity (Waite, 2009: 221).

^{iv} The area under housing expanded by 44% in the decade from 1999 to 2010 (BPS 2013). Most land conversion is on agricultural land, including former plantations (which reduced by 1,500 hectares in this period). Very rapid change, albeit on much smaller areas was seen for forests, which decreased by 32% between 1999 and 2010, and for marshy areas (which decreased by 43%). Conversion of forests and marshes has implications for managing the city's hydrology, and specifically flooding.

^v Interview with Handri Kurniawan, Member of Parliament of Bandar Lampung City, Member of Budgetary Board of Bandar Lampung House of Representatives, Member of Committee responsible for Infrastructure, Bandar Lampung House of Representatives, October 2013.

^{vi} Survey responses for Kota Karang, Pasir Gintung and Kungkung, September 2013; Focus group discussions August 2013.

^{vii} Survey responses for Kota Karang, Pasir Gintung and Kungkung, September 2013.

^{viii} Key informant interviews in all three areas, August 2013; focus group discussions, August 2013.

^{ix} All data in this section from focus group discussions, August 2013.

^x Focus group discussions in Kota Karang, August 2013.

^{xi} In Kota Karang this includes work by the Public Works division which is aimed at protecting the city more widely, rather than just Kota Karang. Flood defenses include improved river embankments and strengthened sea defenses. At the household level, the city mayor's office has installed flood water gates to prevent flood water from getting into houses and causing excessive damage.

^{xii} Key informant interview, Kota Karang, August 2013.

^{xiii} *Pesantren* or *Pondok Pesantren* are Islamic boarding schools which provide dormitory living at very low cost for students. It is relatively common for those on low incomes to send children to be educated in these kinds of institutions.

^{xiv} Focus group discussion, Kungkung August 2013.

^{xv} Rp 500,000 is the equivalent to around USD\$38 at the time of the research.

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