A Political Economy of Slum Spaces: Mathare Valley

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Abstract

The starting point of the paper is the spatial characteristics of slums when it seeks to explain why rulers tend to neglect the welfare of their dwellers: they don't have to. Their economies are fairly closed. While located close to the centers of power, their high population density implies that they cover small space and are easy to cordon off in case of danger. The ease of control from the outside allows rulers to spend less attention to the control of their complex inside. Particularly when a slum is based on shack architecture, the high degree of mutual monitoring among dwellers may cause sharp shifts in the control regime of crime. The emphasis on spatial configurations motivates the focus on one specific slum: Mathare Valley. Paths back to colonial rule are outlined. The paper is stylistically unkempt.

Contents

Part I: General aspects of slum control

1. Introduction[1]

Rapid urbanization takes place in most countries in sub-Saharan Africa. Kenya is no exception. Population growth in Nairobi has stayed above four percent for decades, according to common estimates, although slightly declining (UN Habitat, 2014: 149). Missing ability or willingness to prioritize the development of urban infrastructure has resulted in a massive increase in urban slum populations. In a few countries, such as Senegal, the share of urban population who resides in slums has substantially decreased, however; but not so in Kenya. More than half of the population in Nairobi has been living in a slum for decades.[2] Moreover, both the building standards and public infrastructures connected to them are worse than most.[3]

[2] According to UN-Habitat (2013: 148) around seventy percent of the urban population lived in slums in Senegal in 1990 while only forty percent did so in 2009, a substantial decline. In Kenya on the other hand the share had stayed around fifty five percent during the two decades. This does not mean that the share of slum population is exceptionally high. The sub-Saharan Africa average was above sixty percent in 2010, but the share in Kenya appears exceptionally stable with no signs of decline. The numbers referred to above are the ones codified in most UN publications, but are quite uncertain and rely on somewhat arbitrary definitions that lead, for example, slum population shares in small towns tending to become higher than in large cities, although it is the waste number of people congregated in densely packed neighborhoods in large cities most have in mind as slums. In the case of Nairobi the estimates vary and estimates as high as seventy percent are often in use.

[3] In a number of studies Gulyani et al (2008, 2010, 2012) have compared slums in Nairobi and Dakar trying to explain the puzzle of the low quality housing of slum housing in Nairobi.

Slums are perceived as dangerous places. Not only are they lacking public infrastructure, which combined with their high population densities make them dangerous to health. In Kenya the high *area* density of crime and violence adds to the insecurity of their residents. In slums dominated by shack architecture, as the ones studied in this paper, the flimsiness of their housing combined with high poverty rates add to the feeling of vulnerability.

We have chosen to focus on only one large slum area, Mathare and within that area mainly a set of villages, Mathare Valley,[4] that all are within walking distance to each other. An understanding of slum governance relies on specific interacting spatial mechanisms that we could more efficiently uncover by the study of a specific geographical area. Mathare is a populous slum area a few kilometers north east of Nairobi's central business district. Its core, Mathare Valley, has been recognized as a slum for more than forty years (Etherton, 1971). Its recent population growth rates appear to have been modest.

1.1   Visual impressions and some naïve question

Throughout its history Mathare Valley has held a reputation for lawlessness where economic and politically motivated violence frequently occurred. Most of its inhabitants have remained poor and its public infrastructure remains appalling. The visual impact of visible poverty, the labyrinths of densely packed shacks, the smell of partly open sewage and warnings about the dangers of being exposed to violent crime when entering the area, make strong impressions of any outsider. An urge to change this kind of the social space from the bottom arises spontaneously in any visitor as it has done at least the last forty years.

While changes have occurred, a key question that arises is how can this pocket of Nairobi remain so stable in terms of its poverty and many of its modes of social and economic interactions? Does its shack architecture have any consequences for the kind of interactions taking place and for how the slum is ruled?

1.2   Sequence and characteristics of the paper

The sequence of the paper is as follows: After a brief presentation of some of the theoretical aspects of slum ruling or policing issues and how they may contribute to lasting poverty of most residents, we present a descriptive and fairly broad overview of the Mathare Valley slum, with its major villages indicating the characteristics of their geographical and population features

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[4]   The use of the geographical names 'Mathare' and 'Mathare Valley' varies. Sometimes 'Mathare Valley' designates the larger area that embraces areas like Mlango Kubwa, Huruma, Mathare North, etc. that we here denote as 'Mathare'.

This will be followed by an outline of the history of the valley the last eighty years or so. We focus on salient points for the evolution of the political economy of slums that can explain present mechanisms of governance and spatial control. While we as far as possible will focus on information from Mathare Valley, we will also visit other slum or housing developments at times. Nairobi has more than hundred slum areas. Glimpses of the relevant political and bureaucratic mechanisms are rare since the major actors have motives for keeping them secret so they can sometimes only be discoverable outside Mathare.

In the final part we focus on the specifics of crime victimization and policing processes in Mathare Valley where we present the procedures and results from *our own* investigations into crime and crime prevention processes with observations from a number of secondary sources.

The form of this paper is less structured and organized then a regular working paper. It is not a paper destined to become journal article(s), but it reports on observations, drafts of explanations sought at different times and in different contexts, so it will contain perhaps annoying repetitions. And more annoying: it will contain more stylistic defects than usual. We hope, nevertheless, that it will prove readable because it tries to penetrate an empirical reality that we hope soon may become history.

2. Ruling from outside and within

2.1 Definitions, extension and policy instruments

The term 'ruling' is here understood in a wide sense and embraces situation where the state dictates the outcomes and where it or parts of the government apparatus are involved in various forms of monitoring of or ruling contests with slum dwellers or other non-state actors about the control of different aspects of slum space. Different parts of the government may then be engaged in different factions of the contests.

From the outside point of view of political elites the slums in Nairobi are sites of potential political instability and have frightening capacities for violent collective actions. They contain a large number of poor citizens densely packed in the neighborhood of political power centers. Their residents have every reason to hold a grudge against political and economic elites, and more so in Kenya than many other African countries since most of the houses, even the shacks are owned by members of the same elites through absentee ownership with contested legitimacy. The security of these ownership rights often vary with the political strength of varying tribal coalitions. Hence, the ruling of slums as a whole may become closely connected to large scale eviction or squatting processes triggered by political shifts. All these become part of the ruling of the slums from the outside. Mathare Valley is a definite economic, political and social space with fairly clear borders embedded in the wider urban area of Nairobi. As such it has an 'outside' and a space within.

To analyze how it is ruled by the state[5], the state's supply of order, its application of instruments to control of residents' violations of state sanctioned laws (including protection of elite accepted property rights, lawful or not) and predation, we have found it useful to distinguish between instruments working mainly from the outside and the government engagements that mainly seek to influence it through the slum's internal mechanisms. The state's ruling the outside embraces management of access to the slums, the allocation of ownership rights to housing , the determination of the geographical areas where informal settlements are allowed, which building requirements that may be dispensed with, and so on. Important instruments are evictions, whether protected by open by use of public force such as the police or implemented in more secretive ways such as through arson where the instigator is not public. Other large scale police interventions may also

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[5] For our purposes we use the state as a synonym for 'public government' and it includes both central government, Nairobi municipality and the new forms of local government that may be the outcome of the new 2010 constitution.

be considered part of the external ruling process. The construction or non-construction of public infrastructure such as electricity, street-lighting, water and sanitation has also an external ruling aspect; for example, may the state allow local gangs to control access to public toilet, electricity and water or not?

The state inside ruling embraces the instruments the state apply to influence the internal policing of the slum which is quite extensive and complicated due to the large number of activities located in the same area: informal and illegal market transactions, family life and recreation, schooling and idling. The activities of local predators such as local burglars are also quite prevalent and to contain them is in principle an important ruling task of the state. The state instruments for inside ruling are closely related to the area chief institution, which will elucidated later on. The possibility that both state rulers of the slum insides as well as their outside rulers may turn predators, at least in the eyes of the slum dwellers, is always open.

Looking at the order from the other side, the side of the residents, the order- relevant engagements of the residents may also be directed inside or outside. In both cases the engagements demand some form of collective actions, but the scope and forms will differ. While the internal engagements or collective actions represent residents' demand for security against other slum dwellers' predation, their externally directed actions are often directed against state predation or what residents consider illegitimate aspects of outsiders' property rights. Naturally, then larger and more difficult forms of collective actions are necessary. An original feature of our analysis is that we relate both the organizational capabilities for collective actions as well as their switches between the ruling forms from welfare-enhancing to predatory in the scope of mutual monitoring between slum dwellers allowed by slum architecture and the character of the social space.

2.2 Ruling issues and slum space characteristics: high population density

A major assumption for the following is that while it is fairly easy for the state to rule a slum from the outside, to control its internal workings is a different matter. That is extremely difficult and often not done. It is the latter fact that has made some political scientists to consider urban slums in Kenya as 'pockets of statelessness' (Joireman, 2011: 129). Nevertheless, one of the reasons why some lawlessness or residential self-rule – these possibilities are both real – has been allowed to evolve is because the Nairobi slums are easy to rule from the outside.

Both set of mechanisms were exposed during the 2007 electoral violence: While it was difficult for the police to break eruption of violence inside the slums of Kibera and Mathare, it was not equally

difficult to stop it from moving outside. The police simply shut them off from the rest of the city. The high population density of the slums makes slum areas small and easy to close in.

2.3 Ruling issues and slum space characteristics: poverty[6]
While we are not concerned here with the economic welfare of the residents as such, the high incidence of poverty among residents influences both the inside and outside ruling of the slum and is influenced by them. Most of the economic activities taking place in Mathare Valley are informal and a substantial number of them are illegal. Their illegality and the lack of feasible alternatives may have important consequences for the role and forms of inside ruling system, as well as perpetuating poverty. The prevailing poverty in its turn will have important consequences for the kind of ruling systems and infrastructure supplied by government as well as the kind of local contests likely to evolve. A further analysis will rely on a closer analysis of the major causes of the prevailing poverty:

We may at the one hand explain the long lasting poverty of the slum by looking at Mathare Valley as an open system where new cohorts of the poor rural people or people exiting even poorer urban slums enter Mathare Valley which forces average poverty in the community to stay at low stationary levels. Mathare may then act as a sorting place where some entrants exit to areas with less poverty and better houses and public infrastructure while some remains locked in. If this flow into the area would somehow shrink – for example through land reforms or

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[6]   We did not have any questions about household incomes in our own questionnaire from Mathare since we believed that it was not possible to get close to any realistic estimates without extensive follow-up questions that would be out of our focus. There are few studies of income levels in Mathare Valley. In order to get panel data most research of that kind is directed to Viwandani and Korogocho and done through the African Population and Health Research Center that follows these two slums closely. Gulyani and al. (2012: 254) present household income estimates for the whole Nairobi slum population. They found an average income of 105 US$ and a median of 93 US$ that translated to individual incomes became 49 and 40 US$; that is, half of the slum population had to live on 1.3 US$ dollar per day or less. While focusing on possible improvements of the infrastructure, a research cooperation between UC Berkeley and University of Nairobi(Muungano Support Trust, 2012: 20–23) also presents some income data from Mathare Valley in their questionnaire study that confirms high poverty levels also for Mathare Valley: 8 500 Ksh per month per household- (approximately US$ 100). With 3 adult equivalents per household this would be about US$ 1 per day per person, and close to extreme poverty levels, with 2.5 adult equivalents it would be 1.3 US$ per day. As expected this income estimate is quite uncertain and liable to measurement errors. For example, the average household expenditures are significantly about reported income. Moreover, looking at the village distribution of data, average income of 3B is a third of Kosovo (5 000Ksh vs. 15 000 Ksh) while average household expenditures in 3B is 16 112 while in Kosovo it is 11 933! It is obviously difficult to make any precise estimate of poverty levels on the basis of such data.

reduced population growth – the conditions would improve through the automatic workings of market mechanisms and the like. In this case prevailing forms of illegality will just represent a side show.

Alternatively, we can look at Mathare Valley as a semi-closed system where new entrants stay long and where it is mainly the social and economic interactions taking place within this space that reproduce poverty and dilapidation and are likely to continue doing so in the absence of major outside interventions or large scale economic changes. In this case the various forms of internally generated illegality may become important mechanisms in reproducing poverty. Slums have a comparative advantage in creating conditions for persistence of informal and illegal economic transactions as well as agglomeration of poor residents. Both illegality and concentration of the poor give little scope for scale economies, although the concentration as such may give some.[7] A large fraction of residents are also victimized through local predatory crime that prevent saving as do the absentee ownership of housing that somehow has evolved in the slums of Kenya.

In addition to absentee ownership of housing other outside social, political and economic forces and structures impinging on the slum contributed to its semi-closure. Here missing outside formal

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[7] Scale economies are also difficult to develop due to the surrounding poverty: Shops may only buy in a couple of eggs at the time since customers buy only one at the time. Banerjee and Duflo (2011) present a lively analysis of the role of missing scale economies for perpetuating poverty. Moreover, they present an economic analysis of a theft that made a family enterprise slide into poverty (ibid.:139–140). In Andvig and Barasa (2011: 85) several theft cases reported from a Nairobi slum had similar consequences. A lucky escape from Mathare Valley that illustrate both the limited scale economies when customers are poor, but the possibilities when they are many is illustrated in the following story i *Huffington Post* (March 30, 2009): 'How, I wonder, did Mama Rose not only survive but manage to put her children through school? I met Jamii Bora, and they told me I could lift myself out of this mess. I started selling vegetables on the street and then used my savings to take a loan to start a water point (a place for selling water) just outside my house. Then I sold little bit of soap – you know people here like buying things in small bits. I look for an example of the soap. She points to what looked like lye. I buy the bar for 37 shillings, and then I cut it into six pieces that I sell for 10 shillings each. If a person has very little money, I will agree to cut one of the pieces into two to sell each for 5 shillings. And you see, in other areas nearby, people sell the pieces for 15 shillings, so I get some of their customers because my prices are better. I sell tomatoes and eggs, too, and all the time I am saving, saving.'
The tiny store, about three by six feet and protected with chicken wire, is attached to her house. The water tap is set up right outside so that the kiosk worker can sell water as well. Thirty-two years in this place, and Mama Rose and her family are finally moving to a home in Kaputei, where she will have space and clean air, her own kitchen garden, an indoor shower and toilet, and a priceless feeling of security.' Kaputei is a housing project area with low cost, but decent houses. Mama Rose received some support to go there, but had also to fairly successful in order to pay her share of costs.

employment possibilities are of course most important making up till sixty percent of the population turned inwards to the local informal economy. Supporting the abstraction of semi-closure and local poverty trap is the fact that the population growth in the slum appears modest at present. No new villages have 'developed' since the establishment of the Kosovo settlement in 2001.[8]

2.4 Ruling issues and slum space characteristics: the shack architecture

Most of Mathare Valley is dominated by shack architecture. This has a number of consequences for any ruling of the area. For the ruling of the outside it means that it is easy to demolish the basic housing units, and it is compatible with contestable ownership rights. For the ruling of the inside it is a significant consequence of shack architecture that most economic activities will take place at the ground level, and in the public and therefor visible to actors outside the transaction. Mutual monitoring by dwellers is thereby eased as is various forms of behavior replications. Another consequence of the shack architecture in the case of Mathare Valley is that the grant process for creating new shack has created narrow and non-symmetric paths inaccessible by cars and where the labyrinthine patterns make it difficult to find the way to or exit from any given house without prior knowledge of the path; obviously of relevance, for example, when considering a crime in one of the narrow pathways.

2.5 Slum characteristics and theoretical perspectives

The semi-closed neighborhood that characterize the informal settlement of Mathare Valley (in our conception) with its multi-stranded relationships and high mutual visibility between its dwellers lead us to expect strong mutual spill-overs between neighbors' actions in the separate action arenas as well as interactions between the action arenas. It seems reasonable here then to borrow theories from the so called 'social interaction' perspective in economics.[9] While not developing any precise mathematical model we apply the perspective

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[8] Pamoja Trust (2009: 38). Here many of the residents had been moved away from Village 2 in Mathare Valley by force and 'granted' government land in Kosovo. Hence, this did not open for much net migration to the area. The average length of stay in their village of our 151 respondents with an average age of 36.6 years was 13.4 years, indicates a fairly stationary population. In the oldest settlement in our sample, 3C, the average age was 41.5 years who had stayed there in 23.5 years. (A description of our questionnaire study will be given in …). |The evidence is not conclusive, however. Ndungu (2010: 76–77) found Mathare dwellers to have stayed there shorter than people in the Mukuru, Korogocho and Kibera slums and Gulyani et al. (2012: 258) found the average community stay for slum dwellers in Nairobi to be 8.8 years and much lower than for slum dwellers in Dakar, Senegal.

[9] A general overview of the perspective may be found in Durlauf (2001) and the subsequent discussion.

in somewhat detail when analyzing the local Mathare Valley crime patterns. It rationalizes the multiple equilibrium characteristics that seem to appear from our data.

Another source of theoretical inspiration is borrowed from the large scale sociology study of Chicago neighborhoods led by Roger J. Sampson and summarized in Sampson (2011). While we in no way could copy the scale and many sidedness of their empirical investigations, their study of collective neighborhood effects on the prevalence of local income and crime levels over and above what may follow from the average behavior of individuals with certain income and psychological characteristics that happens to populate this neighborhoods are of clear relevance. In in the explanation of inside village variation in crime and crime prevention behavior, these two theoretical perspectives will both prove helpful.

In a paper on the political economy of the slums Dafe (2009) raises the question of why the miserable conditions of slums are politically sustainable given the fact that they contain such high concentrations of voters? She explores whether the major direction for searching the answer should be looked for in Kenyan economic inequality or in its tribal structure, and she votes for inequality. This is in one sense trivial: the infrastructure conditions in all Nairobi slums are poor irrespective their tribal compositions so there are obviously no direct way to convert tribal agglomeration into infrastructure investment. Particularly for political democracies the economic explanation of population dense economic poverty traps needs to be supplemented by an explanation of how their existence may become politically sustainable.

Here again there are to major directions to explore: the ease or difficulty of straddling political and economic circuits of decisions, and the ease or difficulty of organizing collective actions among slum dwellers. It is clear that easy straddling, as Kenya is characterized with, will tend to freeze or increase any existing inequalities: in particular, when poor, you have no economic means of your own to influence 'buyable' political and bureaucratic decisions. If rich, you may. As poor, you may only gain economic means for influence through collective action. And here tribalism may prove particularly relevant. The combination of poverty, the necessity, but perennial difficulty, of organizing collective action to achieve influence, combined with the tribally heterogeneity of most slums,[10] may constitute part of the political-economic equilibrating mechanisms of low income-poor-infrastructure of the Nairobi slums. There are counter-working forces special to the slums. Their densely populated character with high

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[10] Note that in the late 1960s when Mathare Valley was more tribally homogeneous a large sub-group among its dwellers were capable of raising enough money to finance collective–land-buying cooperatives or companies. We return to that incident in our historical sketch of the village.

degree of mutual visibility among their inhabitants should make the dwellers more capable of organizing collective actions than people in other settings. Moreover, a larger fraction of the population is unemployed and thus time to spare for collective actions. There are also a numerous examples from the slums that they indeed supply more collective neighborhood actions in many fields than are performed in regular residential areas.

Note that all these considerations are based on the assumption that all the relevant actions are voluntary and performed against a democratic political background. Here we will explore more of the consequences for force-making that follows from the spatial and social characteristics of slums and against a political background where the instruments for political survival are not limited to the democratic ones.

2.6 Role of history and the conception of local poverty traps

One of the phenomena Sampson sought explained for Chicago by his neighborhood effect models was the persistence of relative poverty rankings of diverse neighborhoods particularly that the high poverty ones seem unable to move upwards. Somehow, history mattered. That follows from our Mathare approach too. An implication of the presumption of a long run internal equilibrating mechanism that may reproduce relative poverty and disorder is that a considerable part of the explanation may then be allocated to some initial state(s) that set this equilibrium into existence and that from then on by its own forces would reproduce itself. Initial states may then have long run effects. Hence history of the major initial state actions, in the case of Kenya, colonial as well as the ones made at the early independence years becomes possibly very relevant for the present situation and should be explored.

There are at least four components in the historical origins of the Mathare Valley slum that continue to shape present forms of social and economic interactions: 1) the rise of absentee ownership of the shacks, 2) the size of the slum, 3) the origin of its high population density and poverty level, and 4) it's perceived origin as a center of political opposition as well as a site of irregular economic transactions and regular crime. The focus in this paper will be on the last component – the direct and indirect roles of illegality – including its potential as a site of rebellion – in the governance of the slum.[11]

While the focus is on the fourth component, the components are interlinked. For example, one of the instruments of violence in the

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[11] In a context where he is referring to a youth gang/political organization that arose in Nairobi in the 1940s (2006: 19) cites with approval from John Iliffe's history on Tanganyika that 'it was in the towns that Europeans first lost control of Africa'.

hands of the state is an ability to demolish slums by force. This instrument is difficult to apply fully when the slum is too large and populous. One has to grasp particular political opportunities. The prevalence of absentee ownership is not only important for the dismal quality of the housing in the Nairobi slums compared to other African cities (Gulyani and Talukdar, 2008) but also for the distribution of wealth and the possession and use of instruments of violence among the agents who fight for the spatial control of the slum areas.

Throughout the paper is a concern with the Kenyan state as an apparatus of force. In a companion paper we will study it as an apparatus for supplying public welfare in Mathare.

3. Mathare Valley area – a description[12]

3.1 Mathare Valley: Definitions

Since the geographical extensions of 'Mathare' and 'Mathare Valley' as well as the designations of several of the sub-spaces (villages) vary, we will have to define our understanding and use of the terms as well as possible. This variation in defined extensions has important consequences for how to interpret the estimated population sizes as well as for other aspects of the analyses of the area.[13] Sometimes Mathare and Mathare Valley are used as synonyms for the area that is bounded by Thika road in the north and Juja Road in the south, beginning in the southwest Muratina Street and ending up at the Outer Ring Road. This is the wide definition and as mentioned we will sometimes designate this area as 'Mathare'.[14] The Mathare 'slums' are sometimes used to designate roughly the southern half of this area which contains most of its slums and will then embrace Huruma and

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[12] As underlined in Sen (1980) description implies selection and choice. It is an intellectually underrated activity. Here our aim when describing Mathare Valley is to convey an understanding of how it is ruled. Since we believe its ruling is linked to its spatial features, we have supplied a few pictures and maps in addition to the verbal analysis.

[13] This variation may in itself be partly explained by the large share of informal settlements in the area, where the defined extensions of villages are not only determined by the government but may also depend on the use of the terms by the dwellers themselves that may vary over time and among the persons asked. Recently the mapping of the informal areas have become more precise partly thanks to a cooperation between the international *Open Street Maps* and local community organizations, particularly Map Kibera that also have activated local geographical knowledge through young activists using mobiles with GPS systems. We have also have had good use of the maps published in Muungano Support Trust et al. (2012) where local activists have cooperated with students from UC Berkeley and University of Nairobi under the direction of the professors Jason Corburn and Peter Ngau. It is somewhat paradoxical that local activists appear to be able to give more realistic assessment of local geographic and population data than both the Kenyan state and the international NGOS, or so we believe. Regarding population figures, the state may have incentives to underestimate and the International NGOs may have incentives to overestimate them.

[14] This definition follows largely the description of 'Mathare Valley' in Etherthon (1971). In this report was outlined a description of the various villages as they had developed till 1970, villages that then was geographically distinct , but that now to a large extent have grown together so their demarcations are not easily visible for an external observer. To a surprising extent they have remained distinct as social spaces. The original village names have also had influence on the present naming, but with modifications that sometimes are confusing – at least for non-locals.

Ngei. Mathare Valley slums are then the western part of this area bounded in the east by Mathare North Road.

Recently 'Mathare' also designates a separate constituency with the right to elect a member of the parliament.[15] One has to be very careful when looking at population figure and area estimates that one has the same areas in mind.

In the following we will use 'Mathare Valley' in the narrow sense as the area bounded by Juja road in the south, Pangani Estate/Muratini Street in the west and Mathare North Road in the east and otherwise defined by the set of villages we will include. Although it has a different political representation and in parts a better public infrastructure we will consider village 4A as part of Mathare Valley. 'In particular Mathare North – where we have sampled some respondents – will be considered part of Mathare, but not as part of Mathare Valley.

In an influential 'Zonal Plan' for Mathare Valley research groups of UC Berkeley and University of Nairobi have included Kiamutisya in Mathare Valley,[16] but not Mlango Kubwa that is located to the south of Kiamutisya and to the west of St. Theresa's Secondary school This school that has acted as a kind of geographical boundary (now extended by Baitul Mal mosque built to the east of it) between these two areas (Village I in Etherthon) and the rest of the of the slum area of Mathare Valley.[17] To the north of Mathare river, a fairly new slum village, Kosovo, has moved to the west , but also here any further sprawl has met a barrier of public buildings[18] (see our map 2), that seems to block further expansion to the west. In our map 2 'Village 2'

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[15] Since parts of Mathare North and 4A (see map 1) are not included in this constituency, but has been transferred to the new Ruarka constituency, the extension of this political area does not coincide with the widest geographical extension of Mathare. Mathare became a separate constituency before the 2013 elections when the number of constituencies in Nairobi increased from 8 to 17. Till then and since 1997 Mathare designated a ward and a location within the Starehe constituency. Also then did 4A belong to a different constituency, Kasarani. A ward elected a local politician to the Nairobi City council and also was the area of responsibility for a chief appointed by the central government before the new constitution which is (in theory) operational from the 2013 elections. This was the system ruling when we made our questionnaire based study, November 2012. Adding to the confusion is that the name of one of the smaller villages, 'Mabatini', is now also designating a ward that embraces a large part of what most the time (and also by us) is designated 'Mathare Valley'. Another possible source of confusion is that some of the villages in Mathare Valley have the same name as some villages in Kibera.

[16] Village 1 on the Appendix 1 map.

[17] 'Village 1' may today mean either the whole area of Kiamutisya and Mlangwo Kubwa or Kiamutisiya only.

[18] These situations are documented by air photographs as late as 2009 in Diang'a (2011: 178 -181). The authors here have not walked through this area ourselves.

embraces the areas of '2A' and '2B' in our map 1. [19] Inside village 2 behind Al Badir petrol station is an area called 'Nigeria' that is considered exceptionally crime infected.[20] In some discussions the area term 'Bondeni' is also of some significance.[21] Since a large part of the economic activities of the slum is taking place along the Juja road significant economic transactions are taking place between both Kiamutisya and Mlango Kubwa and the rest of the Mathare Valley slums. While we did not have any respondents from this former Village 1 in our own small study, the area is significant for the spatial control and crime developments for the Mathare Valley area. Given the importance we ascribe to the shack structure we expect the ruling issues of Mlango Kubwa (unlike Kiamutisya) to be somewhat different since it is dominated by high rise buildings. Observations from Mathare slums to the east of Mathare North Road will be drawn upon only occasionally. Here the populous Huruma villages are also dominated by high rise buildings.

3.2 Natural and man-made boundaries

The geography of Mathare Valley is influenced by a few natural and a few manmade factors. At its southern end the Juja road is an important boundary and at the same time the most important area of access to the southern clustering of slum villages. At its south-west end at Mlango Kubwa it is about 5 kilometer to the city center. Along this road most of the traffic in and out of Mathare Valley is taking place. Here are most of its bus and minibus (mathatu) stops located. Most of the multi-floor and permanent buildings are also located fairly close to Juja Road. At the same time it acts as a kind of physical and partly social barrier. The road is dangerous and sometimes time-consuming to cross. A large section of its eastern intersection with Mathare Valley (from about the middle of 3A) is partly blocked at the south, at the Eastleigh side, by Moi air base. The western part of the Juja Road is important for many

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[19] In the following we will sometimes use Village 2 for this area since it is closer to its historical origins in Etherthon (1971) and apparently is the one used in Muungano and Pamoja ((2009). Since we have sampled respondents from 2A (but not 2B), we also have to use the definitions as described in Map 1.

[20] In the blog *Voice of Mathare* [Report from July 15, 2013 http://ushahidi.voiceofmathare.org/index.php/reports/view/606] a map of this area within Village 2 plotting an incident when the police killed a local woman. We will return to this incident later in this paper.

[21] See for example the important field work by van Stapele (2007). As far as we could discover, the meaning seems to vary. In Corburn (2010) Bondeni embraces 1A (?),3A, 3C, Mabatini and Thayu – roughly the area of Mathare Valley to the south of Mathare River (and Gitahuru river east of its intersection with Mathare River)., but seems more often to be used in a narrow sense as the part of 3B that borders 3C or in a looser sense as designating the whole Kikuyu-dominate parts of Matare Valley that are located south of Mathare river, i.e. as embracing the 2 and 3 villages. The name Bondeni (in Mathare) is derived from a land purchasing company that built some fixed structures in the upper part of village 3.

Mathare Valley dwellers through daily labor migration, since the major access to Eastleigh is a the western end. Eastleigh has larger set of wage-paying activities going than Mathare Valley and is somewhat more prosperous. Partly due to the separation between Eastleigh and Mathare Valley by Moi airbase and partly due to their different ethnic compositions, with a large Somali group of dwellers in Eastleigh, the social interactions between the dwellers in Eastleigh and Mathare Valley are otherwise somewhat limited.

The upper bound of the Mathare Valley area to the north is also man-made – Thika Road. It mainly acts as a kind of brake on potential economic and social interactions in that direction, being a multilane motorway that is extremely difficult and risky for pedestrians to cross, except at the new pedestrian bridge and there is only one local road that is crossing it from the underside. In practice, the Mathare Valley slums don't reach the Thika upper bound, however but is fenced from the north by a number of public and private institutions mainly addressing the needs to higher income classes than the ones populating the Mathare Valley slums – such as the five stars Utalii hotel. Through an open space belonging to the police a dirt road from Thika reaches the upper part of Village 4B. Residents of Mathare Valley have several times tried to encroach on this open space, but the attempts have always been crushed, so although seemingly open this area is practically closed except for some small temporary economic activities like car washing that are allowed. The police property is prime value real estate.

3.3 Shack architecture, multi-story housing described

While most of the residential space in Mathare Valley is occupied by shacks, isolated or collected in larger structures, we will also find a number of multi-story solid houses spread out in the area, more densely so in the neighborhood of Juja road. A dense shack structure will not only have important consequences for the health and welfare of the dwellers, as we discuss in the companion paper, but for the instruments the state may use to control or fight for control over such neighborhoods as we indicated in the introductory chapter. Increased density based on packing with new shacks is also a different economic process than a packing based on the conversion of existing shacks into multi-story blocks. The latter presupposes more control of property rights on the part of investors that again often demands more of the state in terms of spatial control. A visual impression of the effects of the packing process in Mathare Valley may be gained from a picture taken of Village 4B in the Valley by one of the authors:

Fig.1. A shack structure from Mathare Valley seen from above

(Photo, Tiberius Barasa)

How does the housing look like below this iron sheet cover? A glimpse of a typical space from the shack structure seen from below with a path may be gained through inspection of the following picture:

Figure 2. Path through a shack structure (multistory block in background)

(Photo, Tiberius Barasa)

In this case the path is surrounded by shacks and structures while in other cases the path may go straight through a structure and may be possibly be blocked or closed by dwellers who live in that structure at nighttime. When inside the mostly connected, non-symmetrical paths, half or wholly below corrugated iron sheet roofs, the feeling of moving inside a labyrinth is irresistible.

A stylized view of how the structures may look like and vary may be gathered from some architectural drawings of a small section of village 4 B:

Figure 3. Architectural drawings of a section of Village 4B

Figure 7, 6: Back-to-back single roomed dwelling units set closely with a varying path widths in-between
Source: Author
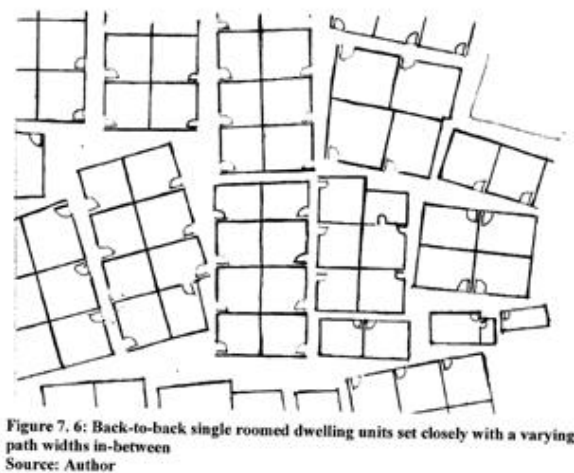
(Source: Diang'a, 2011: 229)

Only one of the structures in this drawing is a single shack. The ones in the middle are rather typical. Two units are facing each other. One consists of eight dwelling units of which four front the other structure. This consists of six dwelling units of which three fronts the other structure. In this case the passage between the unit structures appears to be open at all times, but in many case both ends between the structures may be closed at night time. Each dwelling unit is drawn with a door turning inwards. The dwelling unit is around 9-12 sq. m. each and without windows.

According to Diang'a (ibid. 189) the 4B village consists of about 2310 dwelling units. Looking at Figure 3 writ large one may imagine the labyrinthine properties of such a shack village. To move confidently around it takes time to learn. To know it is, of course, a great advantage under eventual conflicts of control of the inside spaces of the slum.

Insiders know their own paths and neighbors rather too well. Mutual monitoring is practically impossible to avoid in such dense ground level structures, at least at daytime. In village 4B, half of the population found life in them to give too little privacy (Diang'a 2011: 218). This structure has also other consequences – for contests of the internal space of the slum space and for its crime and policing. It is for example obvious that the likely effects of the use of firearms may be strongly influenced by whether it is performed inside or close to a shack cluster or not.[22]

For these and a number of other reasons eventual sites of conflicts as well as most economic activities (Dianga, 2011: 226) will tend to take place either along the broader paths and the remaining larger public spaces internal to or outside the housing clusters. Most men and larger children are attracted to those areas outside the dark labyrinths of the narrow paths crossing the shack clusters. In the following photo one may regard a typical larger open space:[23]

Figure 4. Open space with a light mast

(Photo, Tiberius Barasa)

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[22] In July 15 2013. For example, the police made an armed drug raid into the so called Nigeria area (Village 2) in Mathare and a gun fight evolved. One of the outcomes was that a young woman was by accident shot by a stray bullet than went through her shack and killed as she took care of her baby (*Nairobi Star*, July 16, 2013). Local youth then made a protest in public by temporarily blocking Juja Road and blocking access to Mathare Valley

[23] At daytime this particular space is open used as playground for school-children living in 4B.

The mast in the foreground is one of the tall light masts that have been built recently in Mathare Valley and in other slum areas. They cannot easily be destroyed by stone throwing, as the old, lower one, but they may be climbed, and parts such as light bulbs, stolen. The light mast at the top of Village 4B on the picture has been out of order for several years. Their presence, when working, constitutes a significant part of the man-made architecture relevant for the ruling of the area at night time. In particular by shedding strong lights at wide areas, they have important consequences for the control of crime and violent contests at night and are overall popularly accepted although they may give the whole slum a jail-like impression. Even so, the iron sheet cover of densely packed shacks, make many of the labyrinthine paths between them to remain quite dark. The open spaces, however, are shed in light when a working light mast is installed in their neighborhood. Given their role as sites of public conflicts, they will impact the overall ruling processes of the area.

While village 4B is dominated by shacks, other parts of the Mathare Valley have somewhat higher incidence of taller buildings. One of the maps made from the eastern part of Mathare Valley have it registered:

Map 1. Type of buildings in some Mathare Valley villages[24]
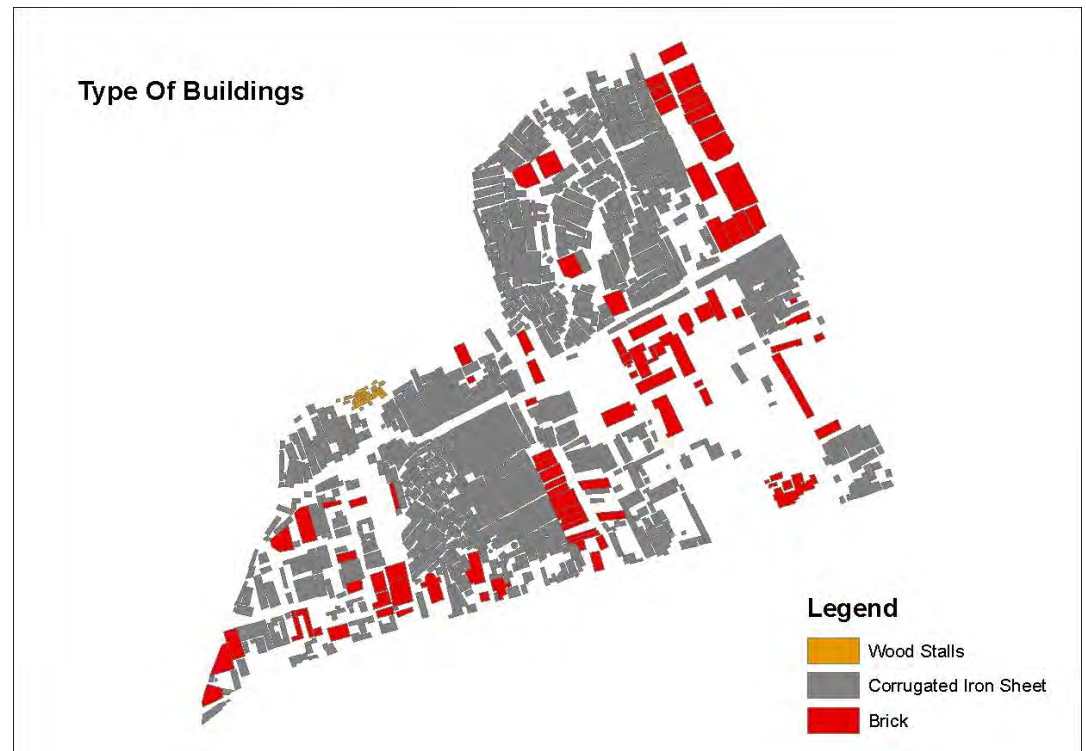
 (Source: http://mappingnobigdeal.files.wordpress.com/2011/03/type.jpg, accessed October 30, 2013.)

An interesting difficulty of classification reflecting the population pressure and the desire of income by the house owners in the area is that several of the brick structures carry shacks on their roofs.

3.4 The rivers and river beds in Mathare Valley

The most important geographical feature shaping the Mathare Valley slums is the Mathare and Gitahuru rivers that are flowing together in the middle of the slum area and then called Githahuru river until it joins Nairobi and then Athi river outside our area of study. Mathare Valley like many other larger slums in Nairobi are located along rivers, as pointed out in KIPRA (2008). The rivers run into the Mathare Valley from the higher parts of Nairobi (about 1800 m.o.s) and have become

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[24] The villages portrayed in Map 1 are No. 10, Mabatini, Mashimoni and Thayu. (Thayu is probably part of what in the Muunganu maps is Mashimoni. The original 'Thayu' was village 5 in Etherthon and located further east-northeast). See Diang'a (2011: 164). Shacks based on wattle and mud have become rare, a few still exist, but are not drawn in this map. Many of the shacks located at the Juja Road (at the bottom of the map) are business stalls.

incredibly polluted on the way reinforced by open sewage from the valley. The resulting stench that characterizes larger part of these slums (as well as the slums along the lower parts of the Nairobi River, such as Lunga Lunga) makes a deep mark on the way the slum is experienced and the resulting water- connected illnesses make heavy impact on the local dwellers: While Nairobi in general is considered to be a malaria free zone, malaria may be indigenous in the Mathare slums.[25]

Mathare River runs west-east and a present southern or northern border for the different villages in the slum since it is difficult to cross on foot. Githahuru river runs north- south until it flows into Mathare River and turn east with it. Inside the slum a few foot bridges exist, but none usable for cars so one part of the slum is only (barely) accessible for heavier goods from the Thika Road end and the other part is accessible from the Juja and Mathare North roads. Across the middle of the southern villages runs a road from the Mathare North Road, however, the Mau Mau Road, but this is barely passable for cars although it is, inter alia, used by the police for patrolling.

Some parts of the river beds that go through the valley are steep. Here the houses (together with the houses sited close to the sides of the former quarries) are exposed to landslides.[26] Other river beds are more flat and exposed to flooding.[27]

An impression of the effects of the latter may be gained from the following:

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[25] More than 20% of the children (6 -59 months of age) sampled in a study on child illnesses from Mathare (ACF International Network, 2009) had shown some malaria-like symptoms the last two weeks in advance of the survey. While many could be wrongly diagnosed or contracted malaria before staying in the area, it is unlikely to be case for all. A statistical analysis of self-reported malaria in two other slums (Ye et al. 2007) shows that most cases are likely to be imported, but the authors still believe some are contracted in the slum. Moreover, experienced health personal consider missing mosquito nets (only 50% of the ACF sample) an important cause. This would hardly become an issue if malaria was not indigenous to the area. Our own small survey where respondents also were asked to report their illnesses, confirms this impression. In an academic study combining an historical overview with data and interviews from health clinics Mudhune et al. (2011) similarly conclude that some indigenous malaria transmissions to be likely, but still unproved.

[26] In beginning of April, 2012, 8 people were killed by stones falling down through the sides of a former quarry in 4A.

[27] For example, May 13, 2012 *Red Cross Kenya* reports about an extensive flooding of parts of Mathare where 1 person was killed, 40 houses destroyed and 600 individuals had to run. mo (https://www.kenyaredcross.org/index.php?option=com_content&view=article&id=305&Itemid=124).

Figure 5. Flooding in Mathare Valley[28]

According to Karisa (2010) about 30% of the informal settlements in Mathare Valley are located within the 30 meter riparian reserve of the rivers and accordingly exposed to greater risks for at least one of the two dangers of floods and landslides or both.

As observed by Diang'a (2011: 182I, the riparian reserve is the most densely populated pars of the slum villages despite the exceptionally bad housing conditions. We ill later seek to explain why. The causes are deeply rooted in the political economy of the slum.

3.5 Population size and extension of the Mathare Valley villages

The Mathare Valley is composed of a number of villages. They may be difficult to distinguish from the outside, but the local dwellers do and they have some official existence. Each will have some known elders with a head, and official population estimates for them are available. That said, and as we have pointed out already, the exact boundaries between the villages may not be determined exactly alike by various experts. Moreover, parts of the area may also be denoted 'village', but consist only of a section of an official village or may intersect several villages. The number of villages for our area listed in our sources range from 13 to 8. When we find different population estimates for a village,

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[28] Se description of the flood in Mathare 4A and 4B, *Nairobi Star*, May 14, 2012.

this may either be due to different estimates of a given population or estimates for different populations living in areas with the same name. It is notoriously difficult to estimate population sizes in a slum even for a known definition of an area. The estimates for the whole Mathare Valley range between about 100 000 and 500 000. The Pajuma Trust (2012) team estimate of 183,183 people in 2011-12 is the one based on the most extensive field observations we are aware of, however, and likely to be more realistic for the 13 villages defined by them as Mathare Valley than the official 2009 census number of 80,309 or any of the different NGO numbers circulating.[29]

Table 1. Population and area estimates: Villages in Mathare Valley

Village	# N Census 2009	Sq. Km	Pamoja# N[30]	Density[31]
3A	4059	0,0536	2500	75727
3B	7433	0,0497	10000?	149557
3C	5316	0,0761	2800	69855
4A	18776	0,2151	20000	87290
4B	5681	0,0610	12000	93131
Gitahuru	3737	0,0464	986	80539
Kiamutisya	5825	0,0540	1700	107870
Kosovo	8085	0,0835	25000	96826
Kwa Kariuki	5290	0,0545	7000	97064
Mabatini	1160	0,0380	1200	30526[32]
Mashimoni	4478	0,0526	4000	85133
No. 10	2594	0,0272	4000	95367
Village 2	7875	0,0720	20000	109375
Total Population	80309	0,8837	111186	90878

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[29] From both historical and geographical points of view, 'Mathare Valley' should also embrace Mlango Kubwa, which according to the 2009 census should have 38 374 inhabitants (UN-HABITAT, 2010: 151), but we are not including it here. It is dominated by high rise tenement blocks that gives its social and economic space a somewhat different texture, and make any planning option for it rather different, which may be the reason why it is not included in the Muunganu Trust et al. (2012) zonal plan for the area.

[30] This column is Pamoja Trust (2009) estimates. These are based on interviews by elders and long-time residents. They show wide discrepancies for some villages between these and the Muungano/Nairobi Census estimates that we organize this table by. They indicate substantial differences in the definition of areas.

[31] The estimates of density are based on the Muungano/Nairobi census numbers. It is population per sq. km. A separate study for Kibera showed a variation between 48 000 to 129 000 per sq. km with an average of about 87 500, about the same or a little lower density than in Mathare Valley (Desgroppes and Taupin, 2011: 27).

[32] The Low density of Mabatini is due to the location of both the Chief's camp and the Mathare Special Training center in the village.

The structure of Table 1 is based on Muungano Support Trust et al. (2012: 16) as are the first column of population numbers and the area estimates. We indicate the uncertainty of the village composition m and the population numbers by adding the population figures of the slum inventory of the Pamoja trust that is also based on serious empirical investigations although of more impressionistic kind. Diang'a's Ph. D. thesis brings also forward some serious village estimates of both population and areas that show the fluid conception of the villages. His estimate for 4B is between the official one and the one by Pomoja Trust: 5,5 hectares and a population between 8000 to 9200)

The area density of the population varies somewhat between the villages. When measured in persons per hectare – which is frequently done, the average density in Mathare Valley is 908 persons per hectare. All villages are rather densely packed, but potential for increased density without any building of high-rise blocks is still there. [33]

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[33] Let us take village 4B as an example. Here there are few high rise buildings and assuming the average size of a shack to be 10 sq. m. with 4 residents. The area is around 6 hectare with 6000 slum dwellers. If there were no open space at all or no public buildings there could here be room for 6100 shacks. We see that 1/4th of the total area will be filled with shacks according to our assumption of 4 residents in each. With the same assumptions 3B could contain 5000 shacks and the actual area covered by 4-resident shacks would be around 37% of the total. These are of course only hypothetical measures of the share of shack-covered areas.

4. Country-wide history shaping Mathare

When investigating present conditions in Mathare Valley it is difficult to avoid history. Mathare itself as a Nairobi slum area is among the oldest that has stayed continuously as an informal settlement, but this is not what makes its historical formation impressing. It is rather how young Nairobi is as a large city. Many of its forming features are partly for that reason at work today: whether it is the ruling building and zonal regulation or corruption (Anderson, 2002); the resulting uneven spatial density of its population; the formation of land-holding and house owner groups, and even the potential ties (real or rumored) between crime groups and politicians have clear traceable historical links (Throup, 1987: 171- 173). The same applies to the localization of crime as well as the frequently violent and corrupt behavior of the police (Andvig and Barasa, 2011).

4.1   Forms of control and varieties of historical impacts

Regarding the history of the contests of control and the origins of fractionalized or missing public control of the economic and social spaces of Mathare Valley, we may again distinguish between the macro, overall control of the whole area, the *outer control*, and the daily contests of control of the *inner spaces*. It is mainly through actions and events that impinge on and condition the macro space that are recorded as having historical significance, but to a large degree those conditions are kept alive through the daily struggle for control of the inner space – a case in point is land- or structure ownership.[34] Moreover, it is likely that there are properties of the inner space that may shape the actions performed by the slum dwellers to the wider political economy of Kenya such as the 2007-2008 post-election violence that may in its turn have feedbacks on present shaping of the outer space of the slums like Mathare Valley: Why was the only

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[34] An important feature of the slums in Nairobi – including Mathare Valley – is that while the actual ownership rights to land are often fuzzy, the actual ownership to a shack or set of shacks (structure(s)) as such will be clear, but its location will be conditional on a bureaucratic or political decision that may be revoked. In most cases the key decision-maker here is the chief, but several and contradictory permissions given by different public agencies are common, which give wide scope for fraud. In many cases will their tenants not know whether their structure owners are landowners or not. For example, among our respondents from village 4B, 11 out of 25 believed the house owner owned the land while only 1 believed it was owned by the government, although at least formally the land was public.

significant violence in Nairobi then only taking place in and around the slums?

Most major changes in the outer space of Mathare Valley will need some form of collective action either by the slum dwellers themselves, by some other groups with significant interests in the slums such as the land or structure owners or by some public authorities. Regarding the latter, it is often not realized the degree to which a state (or a municipality) is also a machinery for collective actions [35]not only a supplier of public goods and services. Many of those goods will have local or club goods and bads character simultaneously. Some state collective actions such as the larger police actions into the slums or evictions will be oppressive towards some groups, and supportive of other. Naturally, this will make the different groups seek to influence operations in different directions. The incentives for doing so are stronger when the state apparatus is fragmented – often along tribal lines or may be influenced by bribing.

Collective actions initiated by slum dwellers whereupon they may influence their surroundings are likewise influenced by their tribal compositions. Tribal composition may influence both the prospects for realization of collective actions at all as well as the composition of the ones realized.

We may for our purposes distinguish between historical influences through

1) conditioning factors that may impact present circumstances like a stock 'variable' that originates at time t and has a continuous impact on the subsequent development without being changed substantially itself (like an unchanged building rule) by the process it impacts,

ii) a trigger variable at time t that initiates a process that continuous to work and through that process has lasting effects (like Kenya's switch from colony to independence)

iii) a conditioning factor that first occurs at time t, but then will be tied to subsequent developments through its continuous or intermittent presence that is related to the process it influences. Without those forms of presence it will fade in influence. A relevant example may be large scale eviction and demolition processes as policy instruments for shaping slum spaces. Historical use of that instrument will both influence the slum situation at the time they were used and the resulting building structure, but also the present behavior and the likelihood of their present use in contests between

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[35] One reason to regard it this way is the leeway public employees have for non-action (Andvig, 2010).

dweller groups themselves and between dwellers and external actors such as the state and absentee structure owners. It will thereby act more like an endogenous flow variable, but brought first into existence by a historical event or process now passed.

iv) A process observed at time t with a capability to reproduce itself endogenously over the long haul. The agglomeration of poor residents to a definite geographical area, the prevalence of local poverty traps, as suggested by Sampson (2011) for Chicago may also apply to Mathare Valley.

We will first look at historical stock and trigger variables that have shaped the external contours and the mayor plays of the game of the slum spaces in Nairobi including Mathare Valley.

4.2. Colonial area regulation and planning

Nairobi was built as a center for the Uganda railway administration and as a center for British colonial administration. As such it received a considerable number of Indian workers and European settlers. Being located in a foreign area, surrounded by a majority of African locals, both groups were in a precarious security situation, but the white Europeans were the masters and settled to acquire and control large areas of agricultural lands for which Nairobi did urban services. The exposed security position stimulated both more planning and harsher control measures than would have otherwise been the case for most European cities at the time. This was also the case in the urban planning that could start from scratch as late as the turn of the century. Health protection for the European (and South African whites) was an important part of the security concerns that drove the zonal regulation.

The first plan for Nairobi was made in 1905 and the last master plan sought implemented was made in 1948 –all under colonial rule. Even the latter condoned a spatial plan that condoned the city to be systematically racially zoned and legitimized unequal division of land over and above what market forces would do. The only post-colonial master plan was made in 1973, but according to Obala (2011: 2) never implemented. Hence, the 1948 plan is to some extent still the ruling one, with the European parts of the city becoming the home of rich Kenyans. While not officially in favor of racial segregation in practice its proposals continued it (ibid. 103). One formal expression of this zoning is that the legal minimum sizes of new parcels in the city are larger in the former European zones.[36] Despite a number of violations this rationing of access to high income areas has some effects since the

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[36] In Karen it is, for example not allowed to sell parcels less than half an acre (Hass Consult Real Estate.). Needless to add such rules may be violated, but it implies that it is impossible for small investors or builders to build new housing there, which reduce the pressure on this land. No such rules apply to Mathare Valley.

price of a plot of land in low income areas may be up to three times higher than the price of a plot of the same size in high income areas (Obala, 2011: 105).

As just mentioned, the residential areas of the town were divided after racial (and class) principles so that the different races would live in different geographical sections of the town. Each European should have access to much larger and better space, the Asians (mostly of Indian or today's Pakistani origins) get smaller and medium quality space while the Africans were to be located in the areas least fit for residential occupation. As has been the case in many other African cities, particularly the Anglophone ones, too strict and expensive building codes have been decided upon that combined with missing infrastructure investments have contributed to slum developments,[37] but their selective application in Nairobi have contributed to keep away large chunks of land to any potential use for the poor (except some small and short-lived slums). – An often referred to result by Matrix (1993) is that by 1989 55% of Nairobi's then 1.35 million lived in slums occupying about 5% of Nairobi's area.[38] Moreover, the slums that did

Area regulation and town planning represent only rules and plans. In order to have only the slightest impact on the ground, policy instruments are needed. One such instrument is *housing permits* that could be used to prevent the building of affordable formal housing in some areas, and making it to compete for space with informal settlements instead of buying the less expensive land in the richer neighborhoods. Racist town planning allocated only small areas to African housing where Africans could legally reside and even partially 'own' houses.[39] Combined with building codes only appropriate for high income residents, expensive building materials and the poverty of the African population (once partly deliberately planned through colonial wage policies), new housing had continuously to rise in non-designated (and designated areas) that would not have received any

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[37] Here the 1947 British Town and Country Planning Act were important (Collier and Venables, 2013:5). For Nairobi the minimum size of a plot allowed to sell was 1/16 of an acre, i.e. about 253 sq. m. When we keep in mind that a regular shack in Mathare Valley is about 10 sq. m. or less, it is obvious that even if a structure owner owned the land, it could not legally be his unless he owned the land of many housing units.

[38] This result appears in a number of contexts and is often presented as if it is valid today. The population of Nairobi today may be around three times the size of the 1989 population and to our knowledge no new estimate based a systematic empirical research has been performed since then. Regarding Mathare they found a density of 200 dwelling units per hectare while Muungano /2009 Census (2012) found a density of around 280 units per hectare, a modest increase in density if the two definitions of Mathare coincide

[39] Inside these areas they could own houses and transit the property to designated inheritors, but they could not buy or sell existing property (White, 1990: 47).

housing permits nor follow any building codes. Hence, all housing in some settlements would become informal and thereby whole areas of residential housing became *illegal*, a fact that that have strong impacts on almost all aspects of slum life.

Initially the major ostensible reason for the racial zoning was public health related: to protect the Europeans against infectious diseases that could arise in the densely packed Asian and African quarters by keeping a geographical distance to them. – Several historical transmission mechanisms from the colonial racial zoning to the present housing agglomerations have been at work, but with similar effects. One was working through the initial clustering into rich and poor areas which then stayed that way through the workings of spontaneous processes that have been present almost whatever policies that later would be applied. That is the pure inheritance effect of colonial zoning policy: dead but still influential. In addition the once colonial zonal policies have to a surprising degree been kept alive (cf. the different minimum sizes for plot sales in the different neighborhoods). Hence both through pure historical inheritance and through recent and present more or less informal zonal policies, the original colonial policies have contributed to a clustering of slums into specific areas. Although the areas set aside to Africans were relatively small, the fact that whole areas were set aside, conditions were led for some of them growing into large size slums. Together with an exceptionally high rural-urban migration rate at the time of the independence we could see the rise of large and densely populated slums such as Kibera and Mathare Valley where a large share of Nairobi's population would live. Not least their sizes have made them difficult to dismantle.

4.3   Colonial labor market controls

Another even more important part of colonial state planning was its labor market control measures. They were quite extensive embracing tax rules, gender specific prohibitions and direct wage controls. For our study of the state instruments and policies for shaping urban spaces, in particular the slum spaces such as the Mathare Valley, the most important ones dealt with the aftereffects of the *kipande* system[40]that acted inter alia as a severe restraint on male migration to Nairobi while

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[40] The kipande was an extended ID registration document to be carried in a tin canister that all male Africans above 15 had to carry when outside their native reserves. It registered name, fingerprints (!), father's name, tribal and geographical information. More importantly, it contained information about work experience: wage rates received and whether the last employer permitted the last sign-off. If not, or if not carrying the document the African labor migrant could be fined or arrested. The system became enacted in 1920 and was in practice. Particularly at times of excess demand for labor the law on kipande acted as a kind of sequential villeinage for a worker and made it easier for employers to keep the wage rate down. The system in developed administrative form existed from 1920 to about 1950. A useful description of it is Clayton and Savage (1974: 131 – 134).

the colonial tax rules and rural land policies stimulated it. In addition to the kipande separate papers were needed for private servants to control their movements and even more important for controlling slums in the case of Nairobi: hawking licenses. On the one hand these measures clearly limited the growth rates of the settlements and in that sense eased their control under colonial rule compared to the counterfactual of larger African settlements, but on the other hand, by being governed under so many regulations they demanded much in terms of controls – in case the regulations were to be followed, often too much and some slum areas then could develop as areas where the colonial authorities had no control.

Naturally, the labor migration rules for African economic independents and some corresponding rules for domestic servants were also frequently violated. This implied that at any given time a significant number of males was staying in Nairobi illegally and could at any time risk to be fined, sent back to his reserve or in prison, possibly without any prospects of getting a job legally. The combined effect was to direct the stream of migrants into slum-like living quarters, and ensuring that a significant sub-flow of them were illegal, making the incentives to engage in illegal economic activities stronger and the settlements more difficult to rule. A side effect of illegal housing and illegal urban migration and the agglomeration of potentially illegal economic and social environments into specific areas was that they opened up for extensive police controls of Nairobi where the police without possessing warrants could arrest Africans at any time just on the suspicion of missing papers – and frequently did.

While the kipande is gone, remnants of police behavior from this time are present today including rights to inspect ID papers at any time with active threats of arrest occur in certain situations (Andvig and Barasa: 21-22), and for certain groups (Lochery, 2012).[41]

The combination of colonial labor market and building controls combined with extensive and partly regulated poverty (in most of the colonial period to ensure single person) flows of migration of Africans to Nairobi created large pockets of informal or illegal settlements with a high share of illegal residents. Residents were partly, but to a varying

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[41] After 1990 ethnic Somali citizens needed to carry a pink ID card in addition to the regular one. The risks of police harassment in slums are exceptionally high (ibid.) reflecting that in the gradation of citizenship that Lochery discusses, not only Somali origin but also slum dwelling as such counts in the negative. Eastleigh which at present contains the largest agglomeration of ethnic Somali in Nairobi, is bordering Mathare Valley. While they have voting rights, when it comes to rights to access to public infrastructure of all kinds, slum residents have been considered second rank citizens.

degree cut off from family-based controls that the colonial state tried to harness for its purposes when ruling the countryside.[42]

The outcome was an endogenous propensity to African slum creation with internal spaces difficult and potentially costly to control by the state – if not the necessary information was voluntarily supplied by the residents. The ease of mutual monitoring among residents suggested a *switching strategy*: either most residents were willing to supply information about rebellious or illegal activities to the colonial authorities or most were not; either because they didn't dare to do so or because they expected only harmful or no action from the relevant state agencies.[43] The consequences of the choice were pushed to the extremes during the Mau Mau rebellion, but the same switching possibilities are forcefully present today. As long as the internal activities going on in the illegal settlements are of little economic value and not politically threatening the state seeks only seeks to control the inside of the slums intermittently.

In the periods of low state control alternative, indigenous centers of control tend to arise. They may be of very different kinds. During the colonial rule the soft control of fairly well-off and house-owning African Malaya (in house, full night) prostitutes were significant, White (1983: 178) asserts.[44] At late colonial times tribal welfare associations as well as criminal gangs were also influential – as they are at present. In connection with the Mau Mau rebellion Throup (1987: 171-176) claimed both to have been extremely important; gangs for making the state losing control of the African settlements in the period before the rebellion and the tribal associations through their neglect as peace makers by the state to prevent the rebellion.

Prostitutes have become declassed and are not likely to be as influential as peace makers any longer, nor are African house-

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[42] As suggested by Iliffe (1987) the Luo appears to have had stronger family structures, something which had made the migration to Nairobi less costly for Luo newcomers (but more difficult for them to become rich given their stronger sharing rules). The colonial rulers of Kenya were considering applying rural family-based controls also for ruling the internal urban spaces against crime as well as for preventing rebellious urban collective actions. (Throup, 1987: 176).

[43] We return to this hypothesis when discussing the responses to the crime and security questions in our brief exploration of the situation in Mathare in November 2012.

[44] She wrote: 'For all the peace-keeping reasons that made Malaya women such ideal landlords, they were also the most dangerous: They actively formed relationships, and they enforced rules by which their community lived. Doing this, they usurped some of the peace-keeping powers of the state.' Malaya prostitutes were prostitutes who operated discretely from their own homes, and to be distinguished from watembezi – streetwalking prostitutes – and the wazi-wasi form where the sex sellers cried their wares outside their residences (White, 1990: 13–20). It was particularly the 'paying-after' Malayans who had the strongest incentives to keep their surroundings peaceful.

owners,[45] but gangs and tribal associations are still important although – both with a Janus face as potential peace and trouble makers.[46]

4.3 Colonial shaping of African informal settlements ex post

So far we have looked at policy instruments that directly or indirectly sought ex ante to influence African housing and migration to Nairobi and thereby as a negative side effect contributed to the growth of slums. Here we will look at some of the ex post policy instruments used by the colonial authorities to shape and restrain the growth of slums ex post through controlling their external boundaries as well as the number of housing units. The major direct policy instruments were collective *evictions, demolitions, in fencing for control* and *arson;* all first introduced during colonial rule. With the partial exception of arson they all rely on the use of public force, the police and eventually the military. While we are not looking at their welfare effects here, *public infrastructure investments and services* such as roads, electricity and sanitation and water also shape urban spaces and had (and have) also a control aspect. If not before, this point is made evident if they become controlled by local gangs. Their relative absence is part of the definition of slums as well as a major reason why the state in normal times has little control of the slum insides.

While *evictions* could allow the housing structure to stay intact the difference between evictions and *demolitions* with a shanty housing structure will often not be large. The use of the two policy instruments went often together under the colonial rule, but allowed in principle the achieving of two different targets: If the colonial authorities would only shift the racial or tribal composition of a settlement evictions without demolition would be relevant and could be achieved without any short run effects on total number of available housing units. Eventual state participation on the side of the owners in conflicts between owners and tenants, for example, opens up for collective evictions without demolitions and thereby not touching the landowners rent income and property. On the other hand, demolition could be used for health improvements too without touching any ethnic composition, illustrating the different capabilities of the two instruments.

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[45] They tend to have become even more influential in setting marks on both the governance of the internal space of the slum as well as the shaping of their external spatial frames, but more as conflict makers. Again this is matter to which we return, but it is clearly related to the large share of absentee owners.

[46] The present role of tribal associations is probably underestimated due to a persistent unwillingness to discuss frankly tribalism in Kenyan public debates. In addition religious organizations and local community and outside non-governmental organizations of various kinds are involved in peace making, although most in indirect ways. The one directly involved in dealing with security inside the slums are few. To some (and the gangs) we will return.

With shanti structures *arson* might have the advantage of completely destroying the building material and thereby delay a fast rebuilding that shanti structures otherwise would allow. More importantly, it may to some extent hide the political and economic powers behind the wielder of this instrument since fires frequently occur by accidents and is in fact the most serious threat in slum dwellers daily life. Moreover a number of potential perpetrators of arson will often be possible in any given situation. All the three instruments for shaping slum spaces ex post were in fact in use during the colonial rule. While all these instruments may also be applied in the daily contests around the control of the internal space of slums, and by all involved contestants, we are here mainly looking at their role of the shaping of the external boundaries and overall control of slums by some public authorities in the longer run. It was mainly for these; mostly political purposes the colonial rulers put them into use in ways that in several respects became paradigmatic also after Independence, although economic motives became more important with the growth of the present extensive absentee ownership of shanty structures and as the eventual political powers involved became shadier.

The legal basis for the use of all the three instruments was in any case the lack of secure dwelling rights for large groups of the residents and traders in the African settlements and/or the illegality of the given housing structure and the economic activities taken place. The use of arson was naturally more political risky in case the dwellers could not get out in time, however, and the death toll might become too large. Hence, it has been more frequently used on illegal markets where fewer would risk to be killed.[47]

Almost from the establishment of Nairobi as a town did the colonial authorities demolish shack clusters in order to control the development of the city. Hake (1977: 36) mentions that almost the first thing the township council did when established (in 1902) was to order the demolition of a number of shacks. In this case they were Indian, but several African slums were later demolished. The major expressed reason for the early demolitions was health security (mainly for the Europeans), but later reasons of social controls become more prominent. Different political motivations for colonial social and political control and reshaping of African informal settlements once at work have been suggested:

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[47] In 1952 the Home Guards (mainly voluntary settler police) were suspected to have burned down the Burma market, and the Duke Street market in 1954. While most market stalls in 1990 were bulldozed around, demolishment (through arson) dominated the state's reshaping of illegal markets around 2000 as the illustrious ones at Gikomba market (Robertson, 2007). This does not imply that all authority initiated arsons have been directed towards markets. Several have been directed towards the dwelling areas in the slums too.

i) To control the tribal or ethnic composition of an informal settlement. Since the basis of British indirect rule was to use (and develop) tribal rules of control and attach them to specific geographical areas, the complications due to their likely weakening in urban settings were compounded when several tribes were living closely in the same settlement (Throup, 1987). Should there be several chiefs in the settlement or one for several tribes? The experience of the 2007-8 election violence indicates the present relevance of this control issue.

ii) More time specific historically delimited, racist motive was to control African land and house owning to prevent the build-up of a strong African landowning class among whom Malaya prostitutes were important in the 1930s as argued by Luise White (1990: 133) when Pangani was sought demolished.[48]

iii) Somewhat artificially this motive [ii]] may also be related to what is likely to have been a major motive for achieving social control of African settlements, the fear that the African subjects might rebel where their mass of concentration in densely populated settlements may potentially constitute a major threat,[49] key flashpoints for the overturning the colonial – as they in fact did become as part of the Mau Mau rebellion. While this motive, if it is at work today, is unlikely to be articulated as a fear of wholesale rebellion, only as

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[48] In 1938 36 % of the Pangani householders were women, mostly Muslim and former prostitutes or daughters of prostitutes. (By becoming Muslim African women could increase their individual property rights at the time compared to the traditional alternative.) Since Pangani was a relatively well-off African settlement with less obvious health risks than the other African settlements and with a considerable number of well-established landowners, it was paradoxically for more than a decade the chief target for being demolished. Many of its residents moved to Pumwani where the landlords kept similar use-rights including some selling rights to the new and often more solid structures, but losing the rights to transfer their property through inheritance. The latter fact was what led White to interpret the demolition as mainly directed against African landowner class. Incidentally, Pangani is neighbouring Mathare Valley and a number of Pangani landowners established ownership rights to squatting structures there. The Pangani demolishment was important in the initial growth of what became the Mathare Valley slum and the high, relatively well-off female component among its dwellers.

[49] A congregation of the poor may not be enough. As pointed out by Esteban and Ray in a number of papers (for example . Esteban and Ray, 2008), fighting conflicts need resources so when potential ethnic based rebel coalitions may contain substantial number of resource rich members while class based are not, the ethnic –based ones may be more likely to fight. Thinking along these lines it could be a reason for the colonialists not only to fear the poor, but also to worry about well-off African landowners. White's suggestion that the reason for the colonial masters to worry about prostitution from a moral point of view, but was rather due to a concern about undesirable local social power of prostitute landowners appears not wholly convincing, but should not be wholly dismissed.

fear of social unrest with harmful political and economic consequences –as illustrated in the 2007-8 election violence.

iv) Another motive for demolishing a slum or initiate large scale evictions was to root out gangs if they have become entrenched and had driven out the state's control of a slum space. Again this was part of the colonial authorities' original motivation for the initial eviction of Kikuyus from the African settlements in Nairobi. The motive became first manifest when their activities spilled out into the European areas, however: 'The Council and its European electorate only became interested in the locations when African discontent or crime threatened to spill over into the European business area or suburb', Throup (ibid. 174) writes. Similar motivations and considerations apply today. Like then it is not clear how much of the crime is actually exported by gangs rooted in slums like Mathare Valley and how the crime may be perceived as gang made and based on social fears.

While motivation ii) is clearly historical, and iii) weaker today, the rest persists. It is not only the persistency of motives, however, that makes this part of colonial history so relevant, but rather the paradigmatic way it demolished whole informal settlements and/or evicted a large number of its dwellers and more or less by force either located them elsewhere or made them fend for themselves. Since then it has become a key instrument to use or not use by the authorities to shape slum geographical and social spaces and in fighting or not fighting various forms of collective action by the dwellers. It has become instrument in the various contest around the shaping the macro spaces of slums including the contests for the control of Mathare Valley.

Before the times of the Mau Mau rebellion the most significant demolishing event for Mathare Valley was when the neighboring Pangani settlement was eroded as an African settlement and handed over (partly unsuccessfully) to Asian groups while its African residents were sought moved partly by force to the already crowded and more centrally located Pumwani. Some Africans then preferred to move to the still unregulated Mathare Valley and some Pangani house owners bought structures in Mathare, both because they were less regulated, but also because they were more affordable than eventual new houses in Pumwani (White, 1990).

At present the motivation for engineering evictions and to fight against it are driven by either pure prospects of profit for new potential owners or developers of slum land and for the public officials they may bribe, or by some public interest such as the present plan for developing riparian land that intend to reshape Mathare Valley and several other Nairobi slums in major ways.

4.5 The Mau Mau rebellion[50] – a period of institutional 'putty'

Some periods are times of putty: new institutions, action- and norm sets are experimented with and some then formed, new distribution of political and economic forces realigned and carried by new coalitions among major actors. Then the whole new set-up coalesces into clay and stays rather unperturbed for longer periods. The times of the Mau Mau rebellion (1952 -1960) with the following Independence year (1963) were in many ways such a period which may seem paradoxical since the colonial rulers left before its closure. The key formations here were

a) The rulers considered to activate rural forms of controls focused on the separate tribes over potentially rebelling urban settlements along the lines Mamdani (1996) later rationalized (and criticized) as 'decentralized despotism'. To do so they considered using tribal welfare associations and local chiefs belonging to the dominating tribe in controlling any urban settlement, but in the end they gave up this idea.[51]

b) Instead the areas became controlled by local 'gangs'[52] or local 'elders' in contests or cooperation with external police combined with regular provincial administration (ibid. : 177). This persists as a major system in most informal settlements in Nairobi.

c) A coalition between criminal gangs operating in the informal settlements and radical political groups appear to have been established (or rumored) during the build-up to the rebellion led by the so called 'Forty Group' who also built support among the landless or poor Kikuyu peasants (and thereby potential urban migrants). Since then cooperation between violent and sometimes

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[50] The Mau Mau rebellion was a violent rebellion against the colonial authorities in Kenya taking place in the 1950s. Most of rural rebels were recruited among tenants working on European farms in the White Highlands and landless and poor Kikuyus located in their 'native reserves' while most urban recruits and supporters were located in the African settlements in Nairobi, most with slum-like characteristics. The rebellion has received much attention among historians for a number of reasons ranging from its effects on local prostitution to the fall of the British Empire. Histories that give some systematic analyses n of the roles of Nairobi slums and that has formed our discussion are Anderson (2005), Throup (1987) and White (1990).

[51] Throup (1987: 175–176) claims it was a major mistake: 'Only a few administrators, such as Askwith, recognized that most Nairobi Africans were still enmeshed in ethnic rivalries and were not yet ready to enter the democratic multi-tribal future… Askwith had correctly perceived that control could only be achieved by appealing to the same forces.'

[52] According to the colonial administrators up till 1954 these gangs were Kikuyu-dominated and also roaming about in the streets, armed and often more than 30 in strength and often in that 'terrorizing' the Luo and Abaluhya inhabitants of the city (ibid.: 171). Throup's sources here were colonial officers who may have written down their perceptions as well as experiences.

criminal youth gangs and leading politicians has repeatedly been rumored and have sometimes also been factual. The nature of the cooperation would of course very according to whether the gangs support the opposition or the ruling political coalitions.

d) While a general strike in 1950 was fairly successful it proved impossible to base collective political action such as a violent rebellion on any general, cross-tribal class basis, but it fragmented into separate tribe actions within the Kikuyu tribe with some support from other smaller closely affiliated tribes while workers from the remaining tribes were mostly antagonistic.

e) The early stages of the Emergency (October 1952–January 1960) showed how difficult it was for external public policing agencies to control the inner spaces of the informal African settlements when their densely packed residents were unwilling to supply information about gangs and rebels. Potential snitching would be difficult to hide from the gangs/rebels when they were still in control. On the other hand precisely by being densely packed, the informal settlements proved easy to control from the outside in the final analysis when sufficient means of violence was allowed since not much police and military force was needed to encircle and fence in a settlement and control all traffic in and out. The first time this instrument was applied on a large scale was when Pangani was fenced in as part of the police efforts to contain he first and only cross-tribal general strike in connection with the arrest of Harry Thuku (Furedi, 1973: 279).[53] The major and remembered experience with the use of the fencing in instrument stems from the brutal 'Operation Anvil' (24 April -21 May, 1954) where colonial troops ringed in all African suburbs and settlements and closed all roads in Nairobi. While nothing as systematic and brutal has been tried in Kenya since then, this historical experience with *in fencing of slums* has been kept in present stock of police knowledge and is applied when large civil order problems are expected.[54]

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[53] Note that unlike in Europe at the time workers in Nairobi were not – with the exception of the railway workers – congregated in large factories, but where spread out as servants among European families and at small work sites. The place where they were congregated and could interact and make a political mass, was inside the slums, such as Pangani.

[54] It was applied in Mathare Valley during the 2007-2008 election violence. As we have already noted, the Mathare Valley slum with about 100 to 180 000 residents covers less than a square kilometer and has only two motorized access roads. The daily control force today is much smaller than was the case in the African parts of Nairobi in 1954. With about the same population in the whole Eastlands as there is now in Mathare Valley, it then had its own District commissioner, 2 district officers and 4 European Home Guard Commanders, 11 chiefs, 30 headman and 300 tribal police working through the chiefs in addition to the regular police and the police reserve (Anderson, 2005: 220). In Mathare Valley at present there is only one chief

Given the specific historical and geographical circumstances which made the Kikuyu to go through the fastest urbanization, they also filled in the slums and constituted the largest section of the urban poor at the same time as their middle class was better educated. The land scarcity in the Kikuyu native reserve made their larger landowners exceptionally powerful and rich and their landless plentiful and poor. Among the poor Kikuyu socialist class ideology, somewhat modified, played an important role among the rebels and later the Mau Mau rebellion that has had important consequences for the contests of space control in Mathare Valley through explicit identity construction of some of the involved gangs (van Stapele, 2007: 73 – 87).

Another important institutional heritage carried over from the colonial rule in Kenya (and other colonized areas) with severe consequences for the handling of the informal urban settlements was the bureaucratic centralism when combined with and causing economic inequality. In the final analysis any colonial administration had to be centralised with the heads of administration being employed by and therefore accountable to principals residing abroad. This applied to some degree both to the directly ruled and the indirectly ruled parts of the system. When Kenya moved away from a colonial rule to become independent, the 'natural' change, the one that minimised the institutional shifts necessary, was to locate the right to appoint and to dismiss public employees in a single individual, a president. The *president form of rule* has according to most experts on present-day African political systems been of exceptional importance on the continent.[55] Given the scarcity of the local educated group, the role of the state with their new rulers and their income expectations, the outcome had to generate extreme inequalities[56] by which in Kenya's case was compounded by the exodus of large sections of the land-holding European settler group. Naturally, the concentration of political state power made it also possible for the power holders to grab a large share of that land, under the constraint of non-rebellion.

Once historically made, this concentration of power and wealth persists and is a major factor in forming the character of the slum spaces in Nairobi including Mathare Valley. In many ways the wealthy elite in Kenya could fill and play the roles of the former colonial rulers regarding landholding and the spatial order of Nairobi. That said, the lobbying structure would be quite different since the final political

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(with responsibility also outside the valley narrowly defined, 2 sub-chiefs and 2 police stations, but with wide responsibilities outside the Valley.

[55] At the outset, multiparty democratic systems were initiated at the outset of the transition to independence, but in most cases proved not to yield a political equilibrium, at least not in the first decades of the transition. An overview of major quantitative aspects of the political systems on the continent is Bates (2008).

[56] This was predicted early on (in 1962) by researchers like Rene Dumont (1969) and connected to the corrupt handling of the new state powers as described by novelists like Achebe (1966) and Armah (1968).

'selectorate' (Bueno de Mesquita et al, 2003) was not residing in a foreign country. The subjects and their rulers belong to the same constituency.

So far we have only described and Kenya-specific historical mechanisms. As pointed out in our introduction, the slum generation in Kenya has not been so exceptional in an African context. This does not imply that colonial history has not been important. In a rather brief, quantitative exploration of African slum generation Sean Fox (2013) also emphasizes the role of colonial history. Like what we have done for Kenya, Fox emphasizes the fact that the colonial powers deliberately restricted entry of the local population to the cities for security reasons through a combination of direct regulation of labor markets, zonal regulation and through regulating housing standards and ownership combined with deliberate low infrastructure investments.

Except for the latter the aim was to ensure the Europeans' health and security standards. Important part of the colonial impact – and not analysed by us – was the general improvement of public health conditions. This made for considerable population growth that continues today. One important general consequence of urban entry regulations, particularly under conditions of population growth, was that large pockets of illegal population clusters were created in the cities. Regulations, particularly when illegitimate, will frequently be violated. When the direct entry regulations were lifted sometime after Independence, the cities experienced a rapid population growth, but many housing regulations remained, and the agglomerations of illegal occupancy of people and activities in slum pockets experienced a rapid growth, a consequence we have emphasized.

5. Aspects of the history of Mathare Valley[57]

In the former chapter we looked mainly at nation-wide historical forces that have contributed in shaping the Mathare Valley. Here we will look at the specific, local history, events, specific institutions and processes that have formed its present.

5.1 Developments in Mathare Valley before independence

Compared to the neighboring Pangani, which developments have had important consequences for it, Mathare Valley itself was sparsely populated till about World War II. Pangani had developed into a significant population cluster for Africans already late 19th hundred being a resting place on the old pre-railway caravan route between Mombasa and the Victoria Sea. The first major boost to the population of Mathare Valley came when the African population in Pangani was evicted and many Pangani houses were demolished as part of the racial zoning policy for Nairobi and in fact was implemented on a large scale in 1938. Pangani was set aside for Indians. A major motivation for the colonial power was political: Pangani was considered to be a site of African nationalism (Hake, 1977: 48).

In the interwar period Mathare Valley consisted mainly of agricultural villages and a few quarries developed by Indian owners who had received leasing rights from colonial authorities after World War I. The Indian owners rented out some land to their workers (Etherton, 1971: 10) that added to the housing in the area. Some of the quarries were in operation as late as in the 1940s (Hake, 1977: 147). [58] While also the existing housing in Mathare had been considered for

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[57] As far as we know, there exists no systematic history of Mathare Valley and we have not been in a position to make one on our own. The following outline is based on a critical reading of a number of present and old field studies that present observations or report on older informants recollections.

[58] The precise nature and roles of these quarries appear quite unclear. The most important issue today is the nature of the property rights the Indian owners received. In Pamoja Trust (2009: 36) the elders interviewed indicated that they were quite extensive and could be rightfully transferred. The old informant interviewed in Flemister (2012: 95) indicated, however, that the landowning rights went back to the state and then was later given to private landowners through a murky process. Etherton (1971: 9) writes that in 1971 34% was owned by the state, 8% by the Nairobi City council while the rest (58%) was owned privately by individuals, companies and cooperatives, but illegally held till the cooperatives got some legal rights in 1969.

demolition as an African settlement together with Pangani from its very beginning (1921), Mathare was more out of the way, possessing fewer inhabitants and mostly invisible from the major roads, so it was left in peace. Since Mathare was even less controlled by the police than the other African settlements during the critical years of the late 1940s early 1950s before the Emergency in 1952, the number of squatters increased rapidly. Given the colonial regulations Mathare had a comparative advantage as a site of their avoidance, a property appreciated by both the regulators and the avoiders at the time. The Kikuyu share in its tribal composition was high, which was to be expected given its location close to the most populated parts of the Kikuyu native rural settlements. Already then Mathare Valley's closeness to rivers and its invisibility made the area exceptionally attractive as a location for beer brewing, moonshine distillation, and at that time also Mau Mau organization building. While the first activities made a considerable scope for female contributions the latter was skewed towards males, as was the internal alcohol accompanied violence. The settlement received an early reputation for being a nest of crime and poverty- inspired rebellions, a reputation that is still alive (van Stapele, 2007).

It is not quite clear how many residents actually were involved by the Mau Mau conflict in Mathare Valley in the initial stages, as its population was not well known. Given the much larger size of the Kikuyu populations nearer the city center such as in the high density Pumwani, population in the latter was both more visible and also more significant and difficult to control by the colonial authorities in the final analysis. The evidence reported appears somewhat conflicting regarding the degree of initial Mathare involvement.[59] What is clear is that in the end all the Mathare Valley residents became involved against their will when the British discovered that the important urban leaders in the movement were located there and the settlement was demolished in 1953 and 7 000 was left without homes (Furedi, 1973:) . All the houses were demolished and most of the population was later detained in prison camps. The Mau Mau leadership's initial retreatment location was wiped out. [60]

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[59] The evidence is indirect and based on assessments of how much damage the colonial authorities did to the valley during the Emergency. The colonial government declared a state of emergency October 20, 1952 (Anderson, 2005: 390) . Etherthon (1971: 10) mentions that only 150 huts were bulldozed in Village I in 1954, but that most of the people were moved into detention. Hake(1977: 148) on the other hand reports that all the houses were destroyed and Furedi (1973: 285) refers to documents that claims that all shanties in Mathare Valley was destroyed already 19 April 1953 (a year before the so called 'Anvil' operation began) and 7 000 Africans made homeless. Late 1956 and after Kimathi was caught, the emergency policy loosened somewhat till its end early 1960.

[60] It was the duty of the Mau Mau strategists in Nairobi to acquire arms for the forest forces. The leader of the present Mau Mau veteran organization, Gitu wa Kahengeri

At the end of the Emergency(January 1960) only a few squatters (mainly women?) had moved into Mathare Valley , but already by Independence (1963) they could be counted in the thousands, although the Kenyatta government made no secret of that it intended to erase the slum.[61] Nevertheless, in the end no demolition was ever seriously tried. Jomo Kenyatta had at several occasions expressed negative opinions about the poor and rebellious, as the majority of the Mathare slum dwellers were perceived to be, but the majority of the residents in Mathare valley were also perceived to be Kikuyu who constituted the major tribal basis for Jomo Kenyatta's rule.[62] Moreover, the Member of the Parliament representing Mathare, Dr. Munya Waiyaki, was an important patron for the Valley, belonging slightly to the left side of the then ruling party, KANU.[63] Another important feature of the historical development and unique to Mathare is its large shifts in likely gender compositions. Some are clear. Given the status of Mathare under the Emergency, it was easier for women to establish themselves there before the Emergency was formally lifted in 1960. Early fieldworks by Nelson and Ross indicate an overwhelming majority of adult females as late as 1968. In Ross's samples 66% of the adults were females in Mathare while only 34% were females in his joint sample from Shauri Moyo and Kariokor (Ross, 1974: 117). This situation has changed. According to the 2009 census (as reported in Muunganu Support Trust, 2012: 16) about 45% then were female, but

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recalls from his Mathare days: 'We had a big camp at Number 10 (an area close the Mathare chief's office today), which to us was equivalent to Camp David in America.' – *Nairobi Star*, 09-08-2013. Mathare was also used as a site for secret Mau Mau court cases.

[61] In June 1963 (after Kenyatta was invested as prime minister but before independence (in December) the District Officer toured the valley and announced through a loudspeaker that all had to leave their houses within a month (Hake, 1977: 148).

[62] Immediately after the death of Tom Mboya in 1969, violence erupted in Nairobi and Kisumu cities that made late Mzee Jomo Kenyatta declare a dawn to dusk curfew due to civil unrest and destruction of property. In his interview with the British Broadcasting Corporation (BBC), the senior Kenyatta had apparently claimed that the Luo nation was full of lazy people who only know how to shout in the streets. Kenyatta said it will take another 50 years for the Luo nation to understand that making noise in the streets only increases levels of poverty, rather than eradicating it (*The Kenyan Daily Post*, 19-07-2013). Most observers underline the Kikuyu-ness of Mathare Valley, but here again the basis for this may be uncertain. Ross' samples (Ross, 1974: 117) find for example that only 42% in Mathare to be Kikuyu while 86% of the average in his other Nairobi samples (from Shauri Moyo and Koriokor) was Kikuyu. The latter is probably not representative. Etherton's sample from Mathare from a couple of years before find 49% of residents to be Kikuyu, 19% Luo, 15% Kamba and 11% Luhya – probably not very far from the Nairobi average at the time of Etherton remarks. Hence, the public perception of Mathare at the time as a Kikuyu stronghold appears to be incorrect when it comes to the tribal composition of its dwellers, but may be true for the more invisible political power distribution.

[63] A short evaluation of Wayaki's role as a patron of Mathare Valley is presented in Chege (1981: 78 – 79).

adults were not singled out. We have no reason to believe that this has changed much since then.[64]

5.2 Developments after independence – mainly the 1960s

Already in the 1960s the Mathare Valley had a reputation for being exceptionally poor and crime ridden. Nevertheless, compared to present conditions aspects of the situation in at least some of the villages appeared to be quite idyllic despite a rapid population growth. First of all it was less crowded, and the rivers not quite so dirty. If we may trust Hake's description, Mathare Valley appears to have been more integrated into the country's polity and its youth was under more social and political control. The latter was perhaps the most striking difference regarding the control of the inner space of the slum. Potential local youth gangs were engaged as the youth wing of the local branch of the ruling KANU party, which also did policing jobs.[65] The policing members of the youth wing would receive a small salary from local taxes. Rather engage in violent confrontations with the police, they cooperated with it to some extent.

The key leaders were then a member of the Parliament, the younger Wayaki, who unlike the recent MPs engaged actively with local leaders and KANU had an office in the settlement. From the description of Hake, the key leaders of the villages were not state-appointed chiefs, but rather the village headmen. Unlike recent practices they were not appointed by chiefs, but elected at local meetings. Through the local KANU branch several headmen had strong ties to both the MP and the City Council representatives from Mathare (Ross, 1974: 117), and they were actively used in lobbying for public services to the area. The threats of general bulldozing of the area, the lack of economic

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[64] Among our (adult) respondents from 2012, 72% (109 of 151) were females, however, but we arrived at daytime that may explain this abnormality. 97 (of 149) the respondents claimed they were married and 9 widowed, that weakly implies that male headed households dominate according to our sample too. We believe, however, that female-headed households are more frequent than reported from informal settlements, but we are not able to determine the extent of misreporting. Lengthy stays in the field would then be necessary.

[65] (Hake, 1977: 153). In the brief period where KADU existed, the youth wings of KANU and KADU appears to be in conflict. For both organizations there were no difficulties in recruiting unemployed youth volunteers, however, who could act as 'cheerleaders, strong-arm men, and whippers-up of enthusiasm' (ibid.: 152). The KADU youth had been trained in militancy, which could create problem for the KANU rule, but soon the arena was left to the KANU youth wing only. In addition to assist in arranging meetings they would exist as a red-shirt informal police in the Mathare shanty towns. They could even arrest misbehaving off duty police officers. These organizations had some of the features of some of the recent gangs that have some form of political motivation, such as Mungiki and Taliban, but were under much more direct adult control. They received some payment paid through local charges. Not all was idyll, however: one had pure bandit gangs then as now, but seems to have operated more outside the community.

alternatives together with the Independence elections, mobilized the communities. [66] While the interest in political developments remains high today, active involvement in lobbying appears low.[67]

At this time the loosening of colonial migration controls combined with the lack of any significant redistribution of land to the poor and landless led after some quiet to a rapid growth of slum populations including the one in Mathare Valley. In June 1967 it had reached more than 12 000 and August 1969 about 20 000 (ibid. 149). One source of supply of new dwellers was the City Council's burning down of the slum in Kaburini, June, 1969 (Etherton, 1971: 10). The main impetus was due to an institutional shift in Mathare Valley itself.

5.3 The building companies of 1969-71 and their consequences

The largest shift in the supply of housing in Mathare Valley took place around 1970 where a number of landowning companies were established. The population in Mathare increased from 19 463 in September 1969 to 53 026 in January 1971 (ibid: 57). The dramatic shift at the time may be illustrated by a comparison with Kibera. According to estimates by Amis (1988: 241): Kibera's population in 1965 was 6 000 while in Mathare Valley it was only 3 000. Already in 1970 Mathare's population had shot up to 35 000, while Kibera's population increase was more modest and reached 11 000 in 1970. From the mid 1970s the rate of population increase in Kibera became steeper than in Mathare, but as late as in 1980 the population in Mathare Valley was still twice the number of Kibera (120 000 against 60 000) according to Amis's estimations. Both the sudden increase as well as the subsequent slower increase in the Mathare may be traced to the influx of the landowning companies. These organizations were modeled on a number of companies buying up agricultural land from the European and South African white settlers mainly organized by Kikuyus. In the case of companies 'buying' land in Mathare it was not always clear who they bought it from (the Indian quarry leasers, the State or Nairobi City Council?). The coalition was brokered through cooperation between Wayaki and the local headman of Village 2, Ndururu Kiboro. Since 65% of the land-owning companies' land was held in the then squatters' housing areas, the companies had to evict a large number of the poorest squatters who were unable to participate in

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[66] Ross (1974: 116) gives a succinct report from the situation: 'By 1967 when I first visited the area, there was a village committee, a locally run and financed nursery school, a savings and credit cooperative, a branch of the national political party, a youth which served as the village police, a social hall in which nightly dances were held to help raise money for community projects and the committee of elders.'

[67] In our questionnaire 112 out of 151 respondents claimed they registered for voting regularly, but only 4 of 149 told that they had 'tried to influence the government to improve living conditions' in their settlement. More than a third of the respondents reported that they followed political debates.

the companies. The outcome was a long-lasting conflict centered on the reelections of Wayaki to the Parliament (Chege, 1981) where the squatters and tenants (particularly the non-Kikuyu ones) supported the alternatives to Wayaki while the company members and a fraction of the Kikuyu tenants supported him.

The majority of shareholders at the outset apparently lived in Mathare (Etherton, 1971: 63) and had been squatters too, but some were likely to have moved out of the area and become absentee landowners themselves after a while and joined the original group of wealthy investors. Not only were rents high and the building costs for low quality shacks low, making it possible at the time to recover a house investment within six months (Hake, 1977: 159), but the value of land would increase to ten times the value of squatters' land. This was capital gains based on a political transaction. According to the traditional story many of the company members had been Mau Mau fighters and supporters and got rewarded by getting this company land. There may be reason to doubt this to be the whole story, since most Mau Mau supporters had been deported and suffered considerable economic losses and then unlikely to be in the relatively wealthy group. It is likely that most members were indeed Kikuyu and that the land acquisition was protected by powerful Kikuyu political patrons. Wayaki was one of them.

Nevertheless, it was remarkable that a number of slum dwellers had been able to organize a *collective action* where they had collected enough means to buy substantial amounts of land in Mathare and straddle into the political bureaucratic sphere and gain sufficient support officials for other portions of land to control them. The initial impetus to the collective action was based on fears: the Mathare squatters believed it likely that all the houses would be demolished in the near future (Amis, 1988: 241). These land buying operations were impossible to accomplish by any relatively poor slum dweller in isolation, but they could do it jointly and then increase the scale with considerable external support from richer outsiders. Moreover, this collective action could be sustained in classical Olson manner. If successful, they could deliver considerable side-payments in terms of rents and capital gains. The economic side payments led the motivation of the action from the defensive one of community protection to offensive economic gains. Being so successful, the danger of complete demolition of the slum abated. So the action may at the one hand be considered as a successful fight by insiders to control the outer space of their slum. On the other hand, their scale was based on outsiders' capital and political- bureaucratic skills and power. Locals lost most of the control. Later some companies were able to organize their own de facto subdivisions so the ownership of land could be portioned among the members. This may also have needed irregular political/

bureaucratic support since it could be legally questioned[68] and the external investors acquired the lion's share under the subdivisions. Quite abruptly, a dominating role of an absentee house owner class was established in Mathare Valley. Since then it plays a dominating role in the external interactions of the slum, and the conflicting relationship between house owners and tenants shapes many of the internal ruling issues and contests of control.

Together with the increasing weights of the absentee owners, the shift in motivation of the collective action towards its lasting economic side payments, it was then not so surprising that the companies spent none of their political support to lobby for public investment in infrastructure during company investment period (mainly 1969 to 1971). The companies made even less infrastructure investment on their own than the squatters had done. In addition, according to Etherton, many of the companies in several respects supplied housing of even lower standards than the squatters had built. Not many traces of altruistic motivation of the collective action were left. A few of the local squatter members could subsequently join this group of absentee structure owners. The high profitability of the house investment, particularly for the early members, made scope for this original capital accumulation. While some of the original building plans followed the official building rules, in the end all the execution of the plans violated them.

The resulting standards were also illegal and that illegality together with the low standard shacks became part of the stock historical legacy for large parts of Mathare Valley from the early 1970s. So in the end Hake's (Hake, 1977: 159) observation was very apt: 'Mathare Valley existed in a form of legal twilight; nearly every building and shop and organization from one end of the valley to the other was illegal. Legally, the city could have required their demolition without compensation.' In those parts where firmer property rights could be established, however, high rise buildings have popped up.

Closely allied with the stock of illegal housing was a corresponding flow legacy: Most hawkers and builders dealing in legal goods or services in the area operated without legal permission and could be

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[68] From Etherton's (1971: 50) observation that rent in 62% of the companies was collected by its individual members, we may imply that much of their land was de facto distributed individually. From a rent collecting point of view, this would be more efficient, but the legality of this redistribution is not clear. Nevertheless, their right to land was perceived as more secure and the price of their land was valued to ten times the price of the land occupied by squatter houses (ibid.: 62). This made both the return and risk of loss on new housing higher on squatter land. Presumably, the original company members realized the whole capital gain on land but during the land purchasing period the land price increased significantly so late comers who must have received lower windfalls.

fined or jailed any moment. [69]In addition several of the trades performed inside the slums dealt in goods and services that in themselves were illegal: prostitution, brewing homemade beers, distilling and selling changa'a (moonshine) and selling drugs. To a large extent this is still the situation. It is an important flow legacy from the period up to the early 1970s when most of Mathare Valley was shaped, although both moonshine and illegal home-made beer are unlikely to play an equally important role today as it did then according to Hake (1977: 157), where he claimed that more than half of the population relied on these activities economically.[70] It is likely that these activities are less important for the economy of Mathare Valley today, but there are different opinions.[71] Its importance in 1969 was also related to the high female share of the population. While distilling was (and is) a male activity the most of the rest, such as illegal beer brewing, the selling of changa'a and sex were all mainly female activities. An interesting feature of the illegal activities was that at the time received open local political support while they now at the most would receive tacit acceptance. Hake (1977: 156) tells how the village chairmen using village funds weekly went to the court paying fines for residents caught in illegal brewing.

Returning to our main subject, how the state rules or is involved in ruling contests in slums, we may note that the lack of infrastructure and all regular kinds of public goods and services represents an *absence of the state* in a rather straightforward way where the excuse for the absence has often been the illegal character of the settlement, most clearly expressed in the 1960s when the authorities explicitly refused public services for that reason. A hard state presence will either imply slum demolition or investment in infrastructure or both. The running of a more or less illegal economy within the confines of the slum asks for more complex form of interactions with the controlling and force-wielding side of the public apparatuses: At the one hand it is the task of that apparatus to wipe out criminal activities including illegal market transactions that the missing infrastructure stimulates. Hence, missing state activism in form of infrastructure gaps should

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[69] Hake (1977: 160) refer to a *Daily Nation* article telling that in one swoop one Friday in 1968 Nairobi City Council askaris together with the regular police arrested 1000 Mathari slum dweller for not paying tax. These askaris are specialized in policing public markets, have minimal education and are renowned for unpredictability.

[70] A quickly executed questionnaire revealed that 1 535 lived on illegal brewing and distilling, 418 earned wages outside, about 600(?) did some local selling, 81 tailors, and so on (ibid.).

[71] A local community organization, the Dignitas Project (2008) estimates illegal brewing to employ 6% of the local employment, Muunganu support trust (2012: 20)estimates the share of informal activity to 90% of total, but does not mention brewing or distilling at all. Van Stapele (2007: 11) who has done the most intensive field work from more recent period, claims that changa'a distilling still is the backbone pf Mathare Valley's economy and connected to other activities such as trading charcoal and sex.

stimulate the demand for force-wielding state activism, but it does not increase the supply. Infrastructure and public goods such as schooling may to some degree enhance the state's ability to control an area (Andvig, 2010). If the force apparatus had been successful in repressing the illegal components in the economy of Mathare Valley, the economy would not be sustainable. In practice the state has been drawn into forms of regulating informal activities that demand a continuous presence where the state itself will have to behave informally, mainly through the chief-headman institution, but also through the police who collect bribes from but also to some degree regulate the illegal distilleries, informal markets and size of local gangs, a regulation where police violence and even corruption will be continuously reproduced despite the poverty of the Mathare dwellers that limit their ability to offer bribes.

Moreover, the fact that the *illegality* of the overall slum space remained despite some company land buying, implies that the whole settlement has remained exposed to some danger of being demolished and all dwellers evicted, particularly with major shifts in political forces which in Kenya often will imply shifting tribal and sub-tribe alliances or shift in strengths of important individual political patrons. In practice the overall security against large demolition processes will shift with the overall political situation. Hence, a surprisingly large section of the population will show a keen interest in and considerable knowledge of the relevant political processes. That noted, from the very moment the land holding companies got access to land through 'buying' land, it was clear that their houses had better legal protection, were less illegal, than the ones of the pure squatters. Where possible, the housing companies or their members tried to evict squatter staying on the land bought, but at the time most of them (the long residing ones who had received official status in 1965 as residential) had some legal protection so pure and illegal forms of force were tried in the decentralized and partly illegal forms of eviction and eviction attempts (Etherton, 1971: 47).

6 Property rights, class structure and ruling from the outside

The rise of private land buying companies and their implementation of their building projects retained the illegality of the Mathare settlement, but it changed the property rights and the class structure. Since then the relationship between house owners and tenants has been a key determinant regarding both what we have called the 'outer' and 'inner' space of slum governance. In 1970 when the number of dwellers really took off, the occupation of land was divided into pure squatter houses and company owned housing. The contests between the housing companies and squatters were dominant at the time where the tenants that rented from the companies played a more passive role.

As is evident from the population figures and described in Etherton (1971) the companies constructed a large number of structures in a very short time. After the de facto subdivision of the companies, the members become more like individual house- or structure owners, however, where some owned a large number of structures. Given the profitability of building and renting houses on land not owned by any company, and the importance of receiving scarce political protection, a concentration of structure ownership took place here too, so after a while, it was the relationship between structure owners and tenants that became the salient conflicting one. Today a tenant may not even know whether the owner of the structure owns the land or not, and whether he owns it on his own or as a part owner of a company. [72]

This original period of land accumulation in Mathare where the majority of structures became concentrated in the hands of absentee owners was in some respects paradigmatic for the development of slum governance in Kenya where the shacks are not 'owned' by their residents, but by outsiders. The other slums in Nairobi are for the most part also characterized by a similar distribution of structure ownership where most are held by absentee owners, but where no private companies triggered the class division. In Kibera, for example, all the

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[72] For example, among our respondents in 4B, where the land is owned by the government (police reserve), 11 of the 17 who responded, believed it was owned by the house owner, 25 of 25 did so in Mabatini, although ownership here is disputed, and most likely still to be government land (City Council). In Mashimoni 15 of 25 believe the house owner owns the land, although that too is government land (air force). Only 2 of the 139 who responded to the question owned the land they resided in.

land remains public.[73] While the experience of the company owners in Mathare may have been inspiring for anyone in a public position that could convert its power to some slice of control of land in Nairobi, or for that matter anyone with private capital who could 'buy' that public power,[74] formal private ownership of the land was not necessary for that purpose.

In the case of Kibera the procedures for acquiring illegal structures became streamlined after 1974 (Amis, 1984: 90) after the local administration had gained firmer control of the area, and particularly the size of Kikuyu structure holdings expanded rapidly. Kenyatta was still president; the City Council was dominated by Kikuyus.[75] Whatever the cause the fact of streamlining made structure investments safer despite their illegality, and a market for their trading arose, increasing the liquidity of the investment. As late as 1980 annual capital return of structure investment, when a large number of structures were built, was still 131% (bribes not included? Amis 1984: 91). With such profit rates, and when only a few days were needed for their construction, some form of *rationing* from the political outside had to take place. The later development showed that Kibera could be filled up by many more housing units and the local chiefs and elders would gain pro rata with the construction of units. The nature of this rationing we don't know, but was likely to involve rationing through patronage networks of a hierarchical type.

The poverty of the slum dwellers would certainly limit their access to structure ownership, but due to the high profit rates, and low investments needed for building a shack to local standards some would succeed and thereby improve their relative position. Poverty as such could not explain the rise of absentee ownership of illegal slum shacks in Nairobi, however; why the slum dwellers have been unable to effectively become owner-occupiers? In an important work for World Bank, Gulyani et al (2012 have compared the slums in Nairobi and

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[73] In Kibera the public ownership of land is contested by descendants of a number of Sudanese soldiers fighting in former British military units. They had been promised land in this area.

[74] Amis (1984: 92) reports from research he did on structure owning in Kibera and found that 31% of the large owners (above 20 room units) possessed private, formal capital and 38% had public or professional positions. 64% of the landlords lived outside the settlement, and their average number of rooms they rented out was 12.

[75] Omenya and Lobale (2012: 9) emphasize the role of a new Kikuyu MP and that the local Kikuyu was sufficient in number to apply forceful means to wrest control of land from the Sudanese. They relate (based on information from focus groups) the major expansion of Kibera to 1978 when a Kalenjin was appointed District Officer who invited non-Kikuyus to settle and to a claim that the corruption among the chiefs intensified.

Dakar (and then Johannesburg).[76] The most striking difference between slum dwelling in Nairobi and Dakar is the dominating role of absentee ownership of the slum housing in Nairobi. While only 8.5% of the sampled households were owner-occupiers in Nairobi (and 91.2% tenants)[77], in Dakar 74.5% were owner-occupiers (and only 25.5% were tenants).[78] But using the same definition of poor vs. non-poor, the incidence of poverty was higher in Dakar (82.4%) than in Nairobi (72.5%) slums.[79] Despite fewer poor in Nairobi the quality of the slum housing as well as the public services delivered is dramatically better in Dakar. Moreover the percentage of the urban population that lives in slums in Senegal is much lower (38.9 % vs. 54.7%) and steadily declining while in Kenya, as we noted in the introduction, it stays unchanged: in 1990 the proportion of the urban population living in slums was 70.6 % in 1990 while in Kenya it was 54.9%.[80]

When seeking explanation for the high incidence of absentee landowning in Nairobi compared to Senegal a rough explanation may be sought in the much higher degree of economic inequality in Kenya, but again we find this to be unsatisfactory since when comparing with Johannesburg the percent who are tenants there are even lower than the one in Dakar (11.3%).[81] Somehow absentee landowning of illegal structures should be partly explained by a mixture of absolute poverty levels, inequality and a number of historical and political factors going all the way back to the character of the British colonial rule. Its prevalence have obvious negative consequences for the quality of the slum housing – as pointed out by Gulanyi et al. inn a number of articles – without any clear form of benefits in terms of increased availability of urban housing for poor. Good consequences may then not explain the dominance of absentee structure owning in Kenya and its persistence. We have not found a fully satisfactory explanation, but we like to point

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[76] The field work in Dakar and Nairobi was performed in 2004 and the different aspects of the results have been presented and analyzed from a number of angles. It was based on making a representative sample of slum dwelling households from the two cities. Here we are only interested in some of the main characteristics and we will not go into statistical details.

[77] Our small sample from Mathare shows a similar composition. Only 7 of 151 owned their house, that is, more than 95% were tenants.

[78] Gulyani et al (2012: 254).

[79] Gulyani et al (2010: 34).

[80] UN-HABITAT (2013: 148). We should note that most measures of proportion of slum dwellers rely on a number of rather arbitrary decisions; and there are a number of measures of the proportion for Nairobi in the literature. All should be taken with a grain of salt, but the range of serious estimates is from about 70% to 30% (Gulyani et al. 2008: 1918). The proportion of slum dwellers in Kenya is not exceptional for African countries nor is it exceptional that it is not declining according to the UN-HABITAT's estimates. In Zambia, for example the estimated slum population constituted 57.0% of the urban population in 1990 and 57.3 % in 2009.

[81] Gulyani et al (2010: 27).

to a number of factors we think has not received the degree of attention in research as they deserve:

i) Many ownership rights to structures were mainly derived from public decision-making powers in periods of transitions when that power was not stabilized or under conditions where the transfer of ownership rights has been illegitimate or contestable. Although often not consolidated, the state has even then been hierarchically organized with much power concentrated at the top. In periods when that power may be converted into private assets, the resulting private asset distribution tends to be concentrated. This has been much in evidence during the economic transition in the former Soviet Union where the rise of private-public oligarchs has been a dominant feature in the political economy of the resulting countries, but we have observed similar developments in Kenya. Here the high concentration of rural land ownership that resulted from the private land-buying companies that constituted the models for the structure-owning companies, has been a striking development that dominates much of Kenyan economy and politics.

ii) While taking place on the largest scale in the near aftermath of Independence, similar conversions of public power into private landownership have been taking place all the time at individual levels, but concentrated during periods of major realignments of tribal coalitions. The outcome has been a hotchpotch of fuzzy landholding rights. A regularization and clarification may cause many to lose them, and the gainers may not knowing in advance, since also the legal clarification will take place in a situation of new and difficult to predict shifts in public power. The historical layers of claims have made most legal clarifications contestable and risky. Since the existing fuzzy rights are concentrated in the hands of owners with strong connections to or membership in the political ruling groups of different persuasions and tribal backgrounds, major realignments are extremely risky for them, and may trigger major violence, any serious attempt on reform and realignment landownership rights, including the one decided on in the new constitution, has stalled and is likely to do so in the foreseeable future.

iii) The same argument applies to the ruling group of land-or structure-owners in Mathare Valley: while some may gain by receiving new title deeds, and then start to invest in less flimsy and better housing, many will lose their fuzzy ownership to their structures. Hence, it will be difficult to initiate major changes. Let us now contemplate a large scale *slum upgrading* under conditions of fuzzy absentee ownership, the group that will rule the key external conditions of the slum. Given the low quality and costs of the existing shacks, upgrading is likely to imply demolition and then the building of better housing. Since, the structure owners' land rights often are

tied to the existing structures, they risk to lose their rent income, with only risky claims to the new more valuable houses. To regain access to land, the latter will rise in value and may keep the less wealthy or less well connected ones out as happened during the company buying in Mathare we described. Since most owners live outside the slum, they don't gain directly from improved quality, but they are the strongest group with economic interest in the slum. They, or a sufficiently large group of them, must be compensated in terms of capital or interest gains, in order to support slum upgrading interventions from either governments or wealthy NGOs. The tenants, on the other hand, may gain in terms of quality, if they are able to gain access to the new houses, but they will have to bear the actual costs of moving out when houses are demolished. Since they don't even possess fuzzy ownership they will not receive any capital gain given the prevailing level of poverty, the moving costs make their situation even more precarious, and the right to access to tenancy of new buildings will be fuzzy, but if secure enough to make it marketable, they are likely to sell it. Particularly so, since the rent in the improved housing structure is likely to increase. Hence, the tenants are unlikely to strongly support slum upgrading, and on the whole the political gains by initiating slum grading are likely to be small at the tenants too, although the number of slum dwelling tenants is large.

iv) Summing up, we see that a slum ruling equilibrium composed of poor tenants and an absentee structure owning class holding only fuzzy ownership rights appears quite stable. So unlike a slum populated by owner-occupied housing units, the Mathare Valley type of slum appears to be rather resistant against both outside and inside initiated actions for housing quality improvements. This unlucky equilibrium may explain some of the reason why the slum population in Kenya as share of the urban population has not decreased – unlike the situation in Senegal.

Overall, when regarded from the external ruling point of view, the tenants and structure owners often may have shared interests and will seek to counter externally induced changes that involve regularization of property rights, demolition of shacks, and so on.

7 Chiefs, landlords and tenants – the ruling of internal slum space

This does not imply that no internal changes are taking place in the Nairobi slums due to fears of rupturing any existing stock of fuzzy and potentially contradictory ownership claims. Private structure owners may, for example, claim that they have been granted new title deeds in areas formerly belonging to the government and initiate eviction, demolition or arson processes to get rid of the tenants living there. In this case, naturally, slum dwellers and the absentee owners will have antagonistic interests I a demolition process. Regarding Mathare Valley a number of contesting claims are on the table at present that may trigger evictions, of which some may create structure owner tenant antagonisms.[82] When coming to evictions at the individual level, and rent determination, structure owners and tenants naturally have opposite interests in general.

In the former section we have looked at the role of absentee land-or structure owning in slums and its eventual effects on the quality of housing, but rather to ascertain how it effects on the governance of external slums spaces in like the one in Mathare Valley through collective responses to externally initiated processes like demolition or regularization of and clarification of land rights in a slum. Looking at the *inner space*, the fact that the tenants are poor with uncertain incomes, each household risk to get into low or zero income sequences where they then become unable to pay the rent owed to the structure-owner. Hence, they must always expect to be individually evicted. In our sample about thirty percent (44 of 151) had experienced this and at at the time we did our questionnaire (November 2012) more than a quarter reported that they lived under threat of eviction (40 of 151). [83] When the external governance environment shifts either due to the

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[82] In a brief survey of landholding conditions of Mathare Valley Muungano Support Trust et al. (2012: 38) potential conflicts between private structure owners and private developers or between private developers where conflicts between owners and tenants may be triggered may be brewing at least in Mabatini, Village 2 and Kiamutisya (part of former Village 1). In ¤A there has been a major effort to improve the housing quality and public infrastructure of the village initiated by a German NGO that has triggered a complex struggle between former structure owners, the NGO, Kenyan public administration that combined eviction and rent paying struggles. Since we have done no research in 4A on our own and since an exposition of this reform effort will demand lengthy analysis we will leave the effort here.

[83] In their much larger sample of households (18797) from Kibera Marx et al. (2013b: 193), 10 % had experienced an eviction.

implementation of a public project or by policy shifts that change the external power distribution, collective eviction processes are often induced. Seen from an individual's point of view, they may hit approximately as often as the single household evictions, our respondents seem to imply.[84]

For a number of reasons the rents earned by letting out shacks are high compared to their building costs and compared to the tenants' ability to pay.[85] When the land is cheap due to conflicting land ownership claims or squatting at public land, access to the building of new shacks has to be rationed. The rationing within a given internal slum space under stable external governance surroundings is (November 2012) mainly done by the chief together with the elders. As employees of the Provincial Administration they are within limits given the right to grant temporary occupation licenses (TOLS). They are likely to receive bribes by the prospective land or rather house or structure lords. Threats of single house demolition without implementation may yield the same. If left at chiefly discretions this kind of slum space will tend to move towards increasing density where all public space will be occupied. This will naturally give rise to conflicts with the existing dwellers. The fact that relationships between structure owners and tenants are generally conflictual at the individual level inside the slum may be one reason why landowners become absentee owners, and particularly so in a shack-based slum where the dwellers get close and are little protected against attack at their residences. The structure owners often even delegate the actual rent collection to middlemen.

Those daily interpersonal (and class) conflicts will normally be solved by the chief consulting with the local elders. Hence, the chief will do important *policing* tasks (cf. Andvig and Fjeldstad, 2008) and be in more daily contact with the population in the slum than the police itself. [86] In addition he has a number of other powers such as the right to grant (or not grant) permissions to initiate or operate a Local

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[84] When asked whether your household was the only one evicted 32 answered 'yes' and 31 'no'. Only 44 told that they had once been evicted, so if consistent only 12 and not 31 should answered 'no', but inconsistencies like this abound in many questionnaire studies. In any case is our sample too small to become representative for experiences of collective eviction processes, but may be OK'ish for the individual ones.

[85] The average monthly rent paid in our sample Ksh. 1981 The Marx (2013: Table 1a) shows slightly lower average rent was paid in Kibera (Ksh 1715) at about the same time.

[86] The chiefs are state (November 2012) appointed officials who like police officers are bound to rotate between different locations – in the case of chiefs at annual or biannual basis, and the may not be appointed as chief in their home location (Joireman, 2011: 141). At least in Nairobi they are in university educated, and being I direct line to the president's office they are wielding considerable power. Their future role is to our knowledge still not clarified. In Mathare Valley there is one chief and one assistant chief with camps at the opposite ends but inside the slum. It may be more than symbolic that there is no police station in Mathare Valley.

Community Organizations in a slum or to permit or deny access of NGOs or research ventures, like ours, to enter the slum. More importantly he is responsible for appointing most of the *elders* and cooperating with them. They are locals and possess much of the local knowledge needed for governing the internal slum space that the police and the chief are unable due to the rotation policies (Andvig and Barasa, 2012,). He is also the main state representative to handle all kinds of intertribal conflicts that may easily arise under slum conditions where people have to live close and visible to each other.

We are not aware of any systematic analysis of the effects of the Chief's behavior on the outcome of the conflicts between tenants and structure owners in Mathare Valley, but a very ambitious project focusing on it has been recently made in Kibera (Marx et al., 2013). They have so far studied the effects of the ethnicity matchings between chiefs, tenants and landlords in Kibera. Their tentative results indicate that the rents are higher (and local investment lower[87]) when the chief and the landlord belong to the same tribe, and the opposite when the tenant and chief belong to the same tribe, but only weakly or not significantly so. Whether the landlord or the slum dweller belong to the same tribe or not had not any significant effect. These effects appear to be stronger in areas with more weakly articulated property rights, but weaker where a local gang is likely to operate. In the case of Kibera where both the leading youth gangs and the majority of tenants are dominated by Luo tribe members, the gangs may pressurize rent conflicts towards the tenants' direction. Even so, on average they sided more often with landlords than with the tenants in most rent conflicts for rather obvious reasons, ability to offer higher bribes, more often social equals to the chiefs.[88]

Like eviction conflicts rent conflicts may also at times give rise to larger collective actions. In Mathare North and Mathare Valley particularly virulent ones were taking place in 2003. In Mathare North the tenants of a Kikuyu landlord from Kiambu initiated an action to reduce their rents with 500 -1000 Ksh (*Standard* 21 August 2013, and did not pay for a couple of months. The landlord then began an eviction process renting 100 armed people from local (Kikuyu) gangs and his family. Entering the building (it was a high rise building, no shacks) the gang was surrounded by locals after reaching the third floor. Ten were killed before the police arrived, and three more died. This was part of the background that made Mathare North a conflict point during the 2007-8 election violence. Some months before a rent

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[87] The main investment considered was the improving of roofs. This needed approval by the chief.

[88] In Marx et al (2014) the econometric analysis is based on the likely exogeneity of the chiefs' rotation which makes empirical identification more plausible. Joireman (2011: 139–147) also study cases where the official rent tribunal and NGO's are involved, but find that they are rarely used.

dispute had taken place in Mathare Valley. That time it took place within shack structure (Weiss, 2004: 35).

In Kibera a larger share of the structures is built on public land than in Mathare, The building on public land gives the chief a larger degree of discretionary power than in the case of land which is privately owned in some form. In the latter case the chief (and the potential structure owner) will have to consult with the land owner before permission to the establishment of t a new structure is given. Moreover, in the case when the landowner will build a new structure, the chief may gain by trying to block or delay the building of the structure. In the case of the building on public land, the chief will gain more the more structures that are built during his assignment. Hence the tendency towards ever tighter packing of shacks under such as system. This is a mechanism that in addition to geographical factors and the early Mathare expansion may explain why the rate of population increase in Kibera has been higher than in Mathare over a longer period. The same mechanism may also contribute to the explanation of why so much of the expansion inside Mathare Valley has taken place close to the rivers. The reasons why so large share of the population in slums are clustered fairly close to the rivers are due to a number of political economy factors:

1) Their filthiness and dangers pressurize the land prices and make the area more accessible for the very poor, who may accept more densely packing than other groups.

2) The areas when not desirable from a residence point of will tend to be more open to squatting at later stages of any village development that first will develop sprawling out from the village centers after they already have become rather densely packed and this packing has become the accepted norm for subsequent constructions. Since these are informal settlements, the open areas between houses or structures will at first be large and not so scarce. Since each house or structure need to have some open space around it, single-standing shacks may well be affordable at the outset. As they get scarcer, an economizing of open space may stimulate the creation of, or a meshing together of single shacks into larger structures. On the other hand the actual open spaces will become smaller, so they may only be possible to develop may be filled with larger structures. The later 'random' packing of the settlement will the on average fill smaller holes of public space -when not major collective actions in the shape of evictions and larger block developments are allowed for or forced upon the settlements. It will also cost extra to tear down several single shacks belonging to different 'owners' and substitute them with a multi-shack structure

3) Since the river is a visible limit for any sprawling, it is clear from the outset that any growth here will coming from more densely packed

structures. That said, there are still some open spaces along the river banks in Mathare Valley, partly due to space needed around changa'a brewing factories, partly due to too large difficulties to build on the river beds, and partly to an unfinished diffusion of shack construction processes. [89] As pointed out by Sobreira and Gomez (2001) one effect of informality is that basic housing units will vary more in size and that the traffic paths between them (and other forms of public space) will not develop symmetrically but follow more random processes.[90]

4) The main factor giving distinctness to developments close to the river beds, however, is the exceptionally high degree of ownership uncertainty due to the expectations that all constructions along the river beds may be demolished. They are based on political decisions that all riparian areas 30 meter from the river shall be cleared, but the decisions have so far not been tried implemented. It is also this that gives increase scope for chiefly discretions with their strong economic interest in increasing the packaging of new structures into the area of influence.

As the development in Mathare Valley did show that in landowner tenant dominated economy it is difficult to develop an owner-occupier structure without introducing extensive regulatory measures. If a former tenant is granted a house below market value, it will be profitable to sell it and either take the profit out in consumption, or invest it in a cheaper structure or in some other way start a development that may make the tenant become an absentee landlord while an existing absentee landlord has acquired a valuable new asset.

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[89] The two rivers are not navigable and have not contributed to any general industrialization of the area, but have assisted in creating a comparative advantage for Mathare Valley in making illegal distillation of local liquor, changa'a – an important bone of contention influencing the incentives for spatial control of the area as well as the consequences of the fights around it, issues to which we will return. The most important policy question in Mathare Valley and many other slums in Nairobi at present, is a plan to renovate the city's river system where thirty meters at each side of the rivers may be cleared. A plan for how to minimize the resulting pains for the involved slum dwellers is presented in Muunganu Support Trust et al. (2012).

[90] In their paper they argue that the frequency of the size of units (the number of units in the structures) will follow a hyperbolic distribution with a fat lower tail, i.e. that then single shacks will be more frequent than if it had followed a normal distribution. In their paper they argue – using evidence from two villages in the Mathare Valley as they were around 1970 in Etherthon (1971) – that packaging on average would lead to larger structures. We don't' find this so convincing stated as a general law, but we will return to the issue when we are looking at the economic incentives and institutional structures involved in the packaging of the settlements.

Part II: Crime control and management of inner slum space

1. Introduction

Slums are perceived as dangerous places. Not only are they lacking public infrastructure, which combined with their high population densities make them dangerous to health. In Kenya the high *area* density of crime and violence adds to the insecurity of their residents. In slums dominated by shack architecture, as the ones mostly studied in this paper, the flimsiness of their housing combined with high poverty rates add to the feeling of vulnerability. The actual household experienced rate of crime is likely to be above, but not so much above the high Nairobi average, however. Here we seek to explain why.

To do so we focus on four villages inside Mathare Valley; 3C, 4B, Mashimoni and Mabatini (See map at the end of the paper) where a seemingly puzzling variety of crime and security provision patterns was revealed. A major aim has been to explain this variation and link it to basic characteristics of the slum. Since it is possible for some villages inside a slum to have fairly low crime rates, we may at the same time explain why the average crime rate for a whole slum may not be so exceptional. The observation of a puzzling high variation in crime rates across areas where citizens are confronted by similar crime-inducing circumstances, is not new, however, as pointed out by Glaeser et al. (1996: 507), this is an old puzzle in social science and they observe that traditional factors believed to influence crime rates such as poverty rates, income and education levels are unable to explain cross city variation in crime levels in the US as well as cross precinct variation in New York. They apply a social interaction perspective[91] where one actor's criminal behavior may stimulate his neighbor's propensity to crime and investigate it by formulating and estimating an econometric model. This kind of models may generate large variance in aggregate outcomes from small variation in individual response propensities.

A difficulty with their article is that they don't have direct observations of neighborhood interactions and influence and their

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[91] A general overview of the perspective may be found in Durlauf (2001) and the subsequent discussion.

effects on the crime variation have to be imputed from the econometric model. In our study there is a host of concrete social interactions that may generate variance in crime rates across the villages, too much in fact; and our data don't allow any econometric specification.[92] We outline two of several possible interaction mechanisms we think influence crime rates and that are compatible with substantial variation in crime rates across the villages, but several other are possible.

As noted in Fjeldstad and Andvig (2008: 11) policing and crime are very spatial activities where the characteristics of the space to be policed will have serious impact. There we focused on the effects on police corruption. In the following we will study a more specific space but within that space go broader and explore how the special characteristics of slum spaces based on shack architecture will impact their policing and their residents' crime organizations, crime experiences and their organization of crime prevention. In particular, we will make plausible that the same spatial characteristic under one organizational constellation in one sub space (village) may stimulate crime and violence, while under another it may reduce it.

From the outside point of view of political elites slums in Nairobi are sites of potential political instability and have frightening capacities for violent collective actions. They contain a large number of poor citizens densely packed in the neighborhood of political power centers. Their residents have every reason to hold a grudge against political and economic elites. In particular, only a minority in a slum owns the shack they are living in and have to pay fairly high rents (Gulanyi, et al, 2008). Most of the shacks are owned by members of the same elites. Hence, when the slums are policed as a whole, this policing are closely connected to large scale eviction or squatting processes. It is what we may call the macro-policing of the slums.

Many of the spatial mechanisms that may give rise to collective violent actions with basis in slums and elite concerns about their macro-policing are the same as the ones that influence the inside crime issues. Nevertheless, macro-policing has so far proved rather easy: in the final analysis it has not been too difficult for the police to contain the outwards spread of political instability and violence from the slums by the use of force. We briefly try to explain why. That experience is a major reason why the regular policing of crime in the slums are treated in the same way as the rest of their supply of public infrastructure: it is done on the cheap.

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[92] For one thing, we don't have any reliable income assessments; which are extremely difficult to get in this kind of neighborhood, nor do we have the fraction of single-parent l households that may vary substantially across the villages and that may impact substantial gang formation. The same applies to eventual difference in youth unemployment rates.

The focus of this part of our paper is not on this macro-policing, however, but on the detailed mechanisms of policing, their micro-policing, and crime-making inside the slums. That has not proved to be any easy task where the regular police play only a circumscribed role. To analyze it we have to discuss the roles of the state appointed chief, assistant chiefs and village chairmen and elders in managing crimes in the slum together with eventual voluntary vigilante groups of various compositions (in addition to the three police organizations that are involved, the Kenya Police Service, the Administration Police and the paramilitary General Service Unit, GSU)

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2. Some thoughts on the distinction between victim and non victim crime and their history in Mathare Valley

In part Mathare has had a long lived reputation as a nest of crime and violent behaviors. Successful crimes need a modicum of secrecy. Looking at the lack of privacy and the extensive poverty we may read from typical pictures of overcrowded maze-like slum paths (here represented in figure 2) it is not so obvious why the internal crime rates in slums like Mathare should be high. Crimes are difficult to keep secret and there are few valuables to take. On the other hand most dwellers are poor so many more items are potentially valuable to catch than they would be for richer residents. Furthermore, the shacks are easy to break into and until recently there were few street lights to present visibility at night.[93] When considering victim forms of crime, it is then not obvious whether crime should be more or less frequent than in regular urban areas. And questionnaire studies of crime experiences have to rely on victim crime.

An important characteristic of crime, is then whether they *hurt a victim or not*; and their *form and degree of visibility*. For example, Luise White's (1990) study of prostitution in colonial Nairobi, shows how the different kind of visibility and location of hidden home prostitution, visible home prostitution and street prostitution responded differently to police harassment and were exposed to different professional risks which tend the forms to be allocated in different parts of the city. While prostitution appears not to be policed in Mathare, other forms of victimless crimes do. Here changa'a distillation, mostly concentrated along the river beds are impossible to hide, while homemade beer brewing may to some extent be hidden from external observers, such as the police, but not from neighbors. But when accepted in densely neighborhoods both kinds of activities have comparative advantages of being located in slums were most of the population are involved in partly illegal activities and try to avoid the police.

We have seen that historically this even made local slum governing bodies, including the local KANU party, to organize the fine payments

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93 The ugly, tall streetlights that recently have been installed covering large areas of Mathare Valley, have proved to be a fairly successful.

to the police. Both are also labor-demanding activities and created many jobs. Changaa selling and distilling was (and is) more lucrative and risky. [94] While we are not aware of any systematic historical study of the development of the moonshine and home brewed beer industries, we expect them to be declining industries mainly due to shifts in tastes. Note that females have important roles in both, and since both the status and income from prostitution have been in decline, the income for females from victimless crime is likely to have worsened significantly. Since they from early on had practically all responsibility for raising the children in Mathare and avoiding marriage (Nelson, 1978) this has affected the economic conditions for children too.

Slum areas with their extensive interlinked sets of illegal economic transactions have also comparative advantage as location for drug-selling. Since most drugs are not produced locally, this could not compensate for the job-loss in the traditional forms of victimless crimes in Mathare Valley. Moreover most of their selling is considered a male task, it could not compensate the women for loss income from bazaar and change-making.

While the daughters have been easier to integrate in their mothers' activities, according to Nelson, the boys were left more to their companions and male friends. When combined with high youth unemployment rates,[95] gangs arise easily and spontaneously in these surroundings. Most remain rather unorganized, however. In her master thesis van Stapele (2010) portrays the difference between a couple of local, disorganized youth gangs and a disciplined one like Mungiki.

According to the assessment of Hake (ibid. 157) more than half of the people were dependent of the brewing of traditional African beer, buzaa and distillation of local moonshine, chang'aa. While these industries are still important, they are likely to be less so today.[96] They were an important source of fines and bribes for the police. Up to 140 could be arrested at the same time. At one occasion also the Council police were involved rounding up 1000 (for not paying a council tax. Nevertheless, the interactions appear to have been less hostile, or so it appears from the way at least some of the fines were paid by the village headman (with unpaid, but official status in the Provincial

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[94] In 1974 the fines for changaa-distilling was 5-10 times the fine for buzaa brewing at the same time as the risk of being caught was higher, The distilling of change is a male task while its selling (often complementary to prostitution) as well as buzaa brewing and selling is traditionally a female task.

[95] Marx et al (2013) use the youth unemployment rate as an indicator of the likelihood of gang presence.

[96] In regular questionnaires these activities are likely to be strongly underreported, and for that reason we have not included questions about illegal economic activities in our questionnaire. One recent study made by an NGO suggests that 6% of the local employment is due to changa'aa distillation.

Administration) 'who went to the court on Monday morning to pay the fines of members and residents who had been arrested over the weekend and fined Sh.20 to Sh.50 each for illegal brewing' (ibid.: 156).

As we will see the main difference to the local contest of control of the slum space appears to be, if we may trust Hake's descriptions, the withdrawal of the ruling party from local governance. A number of single aim local community organizations (LCOs) and external non governance organizations (NGOs – international and national) have got involved. While local elders still play a role their conflict solving then may have been more significant (cf. Ross. 1974)[97] than they are today while the local chief has become more important due to the importance of the conflicts between tenants and structure-owners in the present management of the slum space.

The most striking difference regarding the control of the inner space of the slum was that what at present would be the local youth gangs appeared to have been under stricter political control as the youth wing of the local branch of the ruling KANU party.[98] Hence there appear to have been less violent confrontation with the police.

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[97] Ross studied mainly Village 2 that according to Hake had an exceptional active and competent headman. This may have made the elder institution in general also to appear exceptionally efficient, but it is also likely to that the rural copying features from the original gradually have dwindled in force.

[98] (Hake, 1977: 153). In the brief period where KADU existed, the youth wings of KANU and KADU appears to be in conflict. For both organizations there were no difficulties in recruiting unemployed youth volunteers, however, who could act as 'cheerleaders, strong-arm men, and whippers-up of enthusiasm'(ibid.: 152). The KADU youth had been trained in militancy, which could create problem for the KANU rule, but soon the arena was left to the KANU youth wing only. In addition to assist in arranging meetings they would exist as a red-shirt informal police in the Mathare shanty towns. They could even arrest misbehaving off duty police officers. These organizations had some of the features of some of the recent gangs that have some form of political motivation, such as Mungiki and Taliban, but were under much more direct adult control. In addition one had pure bandit gangs then as now. They received some payment paid through local charges.

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3. Police tasks – the Western bundle

Traditional Western police are assigned (at least) five major tasks that are bundled together:

i) Solving interpersonal conflicts that may cause either violence or disrupt smooth operations taking place in public space – such as traffic.

ii) Protect citizens and enterprises against becoming victims to crime.[101]

iii) Seek to minimize the amount of those public harmful processes or goods that are classified as criminal, such as drug dealing or moonshine distillation.

iv) Protect the political elite against violent uprisings and against other activities considered harmful to the political and economic order.

v) Ration the criminal cases that may be brought to courts. This is an important task with implications both for citizens' protection against crime and for the vulnerability of elites.[102]

The common set of instruments the police need in order to solve these tasks which define the police as a public organization, is physical force. Weapons, such as firearms, and access to space to confine persons against their will are here the key ones. With some exceptions the police have acquired a kind of monopoly for solving those tasks partly through receiving an overall monopoly of using instruments of force for public, civil purposes.

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[101] An important part of that task is of course to investigate and solve crimes already committed and bring some to justice.

[102] Even in countries ranking high on any rule of law list, the police in practice are making most of the judicial decisions. In Norway all registered decisions regarding crimes registered at the police in 1997 were traced and counted by the Central Bureau of Statistics, Norway. The researchers discovered that about 80% of the relevant final decisions were made by the police (Stene, 2002). This also reflects the amount of rationing performed by the police even after a crime has been registered. When corrupt, this ration may yield considerable income for the police.

4. Policing slums and protecting elites

The task iv) is in many respects the most important one even in politically stable societies, although often not visible in them though the present scare of terrorists has moved the task more into the public foreground also in politically stable countries. To police a few, mostly peaceful demonstrations are another aspect of this task. Nevertheless, as pointed out in Medina (2007) the shadow of difficult- to- control collective actions such as serious political disturbances or the imagination of violent rebellions is important for the architecture of the state's violence apparatus even when it is not used for that purpose. In a number of countries where instability seems to be a thing of the past, they may still keep separate paramilitary police forces specialized in handling larger, violent collective actions or larger violent crime organizations.

In Kenya's case, instability is not a thing of the past, however, and its paramilitary force, the GSU, is used quite often in the slums, most importantly for macro-policing purposes. The large slums in Nairobi are located close to the rulers; a large share of their populations are for obvious reasons dissatisfied with their conditions and relatively easy to mobilize as can be observed at election times; and they live close to the apex of political power. Nevertheless, the police have so far had few difficulties to solve the IV) - task of policing the slums, for two major reasons:

a) By being crowded, and unlike rural base areas each slum occupies small areas, – under threatening situations they are easy to lock in by means of small forces. This was shown by the British during the Mau Mau rebellion where they locked in and crushed the slum settlements of the time (including the Mathare Valley) in the early 1950s, by the police in the summer 2007, when they fenced in the Kosovo village in Mathare Valley to crush the Mungiki gang's control of that village and surrounding villages. They fenced in the major slums again and on a larger scale during the election violence in 2007- when both Mathare Valley and the even larger slum of Kibera, more rebellious at that moment, was fenced in to prevent any large scale movement of slum dwellers towards political headquarter. None of these policing tasks proved very difficult in 2007-2008.

b) The second reason for the ease of that task is the strong ethnically based forms of political collective actions in Kenya. As the slums

have grown in size they have by necessity become multi-ethnic, which tends to keep much of any mobilization in the slums to turn inwards to political enemies inside the slum. This feature created a more difficult policing task of containing the intra-slum ethnically based violence.

The displayed incapacity of slum dwellers to constitute any serious threat to the public orders outside the slums and the ease of solving the iv)-task of policing is an important side of the political economy of the Nairobi slums and a reason why the political authorities have felt it unnecessary to provide them with much public infrastructure.

5. The internal policing of slums and the role of their spatial and economic characteristics [103]

Slums as sites of political instability as well as their macro police control are both related to their economic and social characteristics as well as their spatial features. The same set of variable clusters influence crime behavior as well as the micro-management of security inside the slums, but in different manners. While the macro-policing of slums so far has proved easy for the police when ruthless, their detailed inside policing has been very difficult, and a ruthless police have proved incapable of doing it on their own. The effects of the spatial features as well as their economic and social characteristics have on crime generation and crime prevention are quite subtle and may switch depending on the dominant social organizations inside the particular village of which a Nairobi slum is composed. We will first describe Mathare Valley and then look at its crime-and police forming spatial features from more general points of view.[104]

Here maybe about 180 000 people[105] are living within less than a square kilometer where the houses for the most part is packed too closely together to allow access with cars. Sometimes non symmetrical paths are leading through the villages and surrounded by shacks and structures, but in other cases the path may go straight through a structure (a construction where a number of shacks are tied together

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[103] I will in the following not look closely at the policing of the major property relationships of the Mathare slums: the relationship between landownership, the house (structure) owners and tenants. The potential for collective actions among tenants as well as house owners influences both the external and internal policing of the slums. The property relationships are also extremely important for explaining the missing infrastructure as well as the extreme low quality of the housing in the Kenyan slums (Gulyani, 2012). Since they only once in a while manifest themselves as important policing tasks and since they will need more extensive elucidation than can be done in this short note in order to be understood, I will only briefly touch the policing of class conflicts in the following.

[104] The main reason for choosing to restrict the empirical basis to Mathare Valley is that we believe policing to be to a high degree a spatial profession where it is a question of controlling many different objects and activities within a given social space.

[105] Muungano Support Trust et al. (2012). This is according our judgment the best estimate of the population size of Mathare Valley, but the estimates vary between 100 000 and 600 000. The actual level of disagreement may be less, however, since exact specification of the area for which the estimate applies, is often missing.

sharing walls) and may be possibly be blocked or closed by dwellers who live in that structure, often at nighttime. Most of the shacks are single floored with walls that consist of corrugated iron plates. The majority are without windows but with a single door leading into a path or to the inside of a structure. When inside a path the feeling of moving inside a labyrinth is irresistible. To move around confidently takes time to learn. To know it is, of course, a great advantage when policing, under eventual conflicts of control or when making a burglary.

Insiders, however, know their own paths and neighbors rather too well. Mutual monitoring is practically impossible to avoid in such dense ground level structures. In one of our sampled villages where shack structure is dominating, 4B, only 15.8% of the respondents were satisfied with their privacy (Diang'a 2011: 218). This structure has also other consequences – for contests of the internal space of the slum space and for its crime and policing. It is for example obvious that the likely effects of the use of firearms may be strongly influenced by whether it is performed inside or close to a shack cluster or not.[106] If it is used, the chance of hitting bystanders is so high that ruthlessness is necessary.

For these and a number of other reasons eventual sites of conflicts as well as most economic activities (Dianga, 2011: 226) will tend to take place either along the broader paths and the remaining larger public spaces internal to or outside the housing clusters. Most men and larger children are attracted to those areas outside. Even here it is difficult and often impossible to enter unobserved and unnoticed by the many local observers. These spatial features have implications for the likely crime picture. It is extremely difficult for outsiders to make a crime inside the area of narrow paths without any local information. Moreover, since most Mathare dwellers are poor, most of the assets they possess have little interest except for people equally poor. Locals planning a burglary can monitor the local possibilities, knowing when people are not at home or about where assets more valuable than average are located. Hence, most crimes inside Mathare are likely to be performed by locals, former locals or friends of locals. On the other hand, the monitoring goes both ways, and it is difficult for insiders not to be recognized, so burglaries will be difficult to do singlehanded. The last alternative of using an informed friend outside will be helpful, but in general it appears difficult to perform burglaries without having some form of physical control or permanent instrument of terror to threaten the residents in a path.

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[106] We will later refer to several cases where violent contests between local gangs and the police have caused the death of non-involved nearby shack dwellers. Whether the intention may be local support or terrorism, may influence the choice of weapon used in such contests.

Again, this difficulty of outsider access is a feature that simplifies the handling of the external (crime) control of the area, but the actual solving of any crime demand access to locals. Moreover, these spatial features, the mutual monitoring and difficulty in running away act as countervailing forces to the expectation of exceptionally high crime rates in a slum induced by the local poverty and low degree of house protection.

The outcome is that the rate of victim crimes is quite high in Mathare Valley, maybe somewhat above a likely Nairobi average.[107] At least 40% of our respondents reported that they had been victim to at least one crime during the last year. While not exceptionally high compared to other Nairobi slums and to Nairobi average,[108] it indicates that for most of the slum dwellers the risks of becoming victim to a crime are significant and something to be prepared for. Moreover, the guilty ones are likely to reside in the village or cooperating with residents.

Regarding the question whether shacks are more or less exposed to burglary than brick and mortar houses, Stavrou's investigation (2002: 29 and 65) indicates a higher exposure for shacks which may be connected to his finding that most burglaries in his sample from Nairobi are performed by several perpetrators, using violence rather than stealth.[109]

In addition to victim crimes, slums have some comparative advantage as locations of non-victim crimes that may spill over into a number of security issues.

The very density of population and the variety and large number of personal and business transaction generate a number of personal and business conflicts. Each economic transaction may be small, but when poor you can't afford to lose. A large number of them may not be fully legal, which give residents incentives to hide. This density of transactions, the crime frequency and all the small and large conflicts

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[107] A discussion of the likely range of the rate of victim crimes in Kenya is presented in Andvig and Barasa (2011).

[108] Ndungu (2010: 104) finds, however, that crime victimization rate in Mathare is around average when Mathare is compared to other slums in Nairobi. During the past year 44.7% of Mathere respondents had experienced at least one crime while 34.1% had done so in Kibera, 47.9% in Mukuru and 58.3% in Korogocho.

[109] Shacks constituted 16% of the respondents' homes but 26% of the burglaries, 13% lived in slums while 19% of the burglaries were committed in slums. Interestingly 73% were committed when someone was at home, in 88% of the cases the burglars were unknown to the victims. The average size of a burglar crew was 5. In 56% of the burglaries violence or threat of violence were used. Altogether 28% of the respondents lived in a household that had experienced a burglary the last year. Mathare was one of the ten areas most exposed to burglary- about 47% had experienced a burglary 'the last year' according to Stavrou (ibid.: 64).

make the internal space of Mathare Valley difficult to police from the outside. Policed from the inside the great mutual visibility between the dwellers and their relative lack of privacy cut both ways: it may ease the control of the internal public authority persons, but may also to some degree enhance their difficulties. If criminal organizations arise, the mutual visibility among the residents increases both these organizations threat potential and may also in other ways ease their potential for control.

Particularly if the aims of eventual criminal organizations are not to live on slum residents, the mutual visibility may contribute in making slums having locational advantages as a hiding place for criminals who mainly do their work outside. Snitching is easier to discover, the costs of the police to enter may be high, and by bringing mainly income into the slum rather than victimize the local population, such criminals may be treated in the same way as local non-victim crime organizations like the local capitalist chang'aa distilleries.

Moreover, the combination of high densities and mutual visibility may give rise or ease the development to a number of strategic complementarities we will exploit when trying to explain the village variations in crime perpetration and prevention behavior.

6. The policing system in Mathare Valley

The key public position in the overall policing of Mathare today is not any of the nearby police stations, but the 'Chief'. The chief is supposed to act as a general administrator, a kind of prefect (Berman, 1992: 231), for most of the area; a mixing of the once developed roles of the British generalist provincial administrators – the 'man on the spot' – with the roles of the tribal 'chiefs' administering the tribal areas for the same colonial administration.[110] Being a link in the provincial administration a chief is in fact closer to the president power than one could expect from his or her rank in the provincial administration and is a key link in the power apparatus of the central government.[111] He is the key person in the state apparatus who is supposed to have control of the slum, knowing the main movements inside as well as knowing the citizens or foreigners who are entering or departing it. There is only one chief for Mathare Valley, but three assistant chiefs.

The chief's camps as well as the assistant chiefs' offices are located inside the valley. Unlike a tribal chief, the chief of a slum in Nairobi is not attached to the area. He is not supposed to live in the same area as the area he is chief for and to leave it after a couple of years. Nairobi chiefs are following much the same rotation policy as police officers in the Kenya Police Service. To become a chief one must have higher grades from completed high school than the one demanded for becoming a police officer, sufficient to be allowed university entrance. Outside the slum to a chief is not any high status white collar job. Unlike the case for the police, there is no specific chief education, only on the job training.

Mathare Valley is divided into about 13 villages (See the appended map). For each village the chief appoints a chairman and a group of elders after consultation with people from the village in an open meeting. The chair (wo)man and the elders live for the most part in their village, also at night time, have lived there for long time and possess detailed local knowledge. Their administration of the villages is

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[110] A slum is in several ways ruled differently from the regular urban space, reminiscent of how tribal areas were ruled under the British. An analysis of how the dual ruling system of colonial powers was continued after independence is made in Mamdani (1996), but he did not discuss the specifics of the Kenyan experience or the specifics of slum administration.

[111] So far are the chiefs not relocated under county administration that might have been logical under the new constitution.

multi- stranded and involves most aspects of villagers' life.[112] Although they are appointed by the chief and have fairly time-consuming and sometimes risky tasks, they receive no formal payment from the government, but are in a good position to receive some share in the informal payments the chiefs receive from house owners, tenants from NGOs and other visitors to their villages. They are the key brokers that connect the formal and informal policing and justice systems for the villages in Mathare Valley.

It is through cooperation among the chief and chairman/elders and not the police that eventual solutions to most *interpersonal conflicts* that may arise in Mathare, even the ones that become violent. Hence, task i) is removed from the police's responsibilities. While the chiefs are not allowed to carry weapons, they have in practice some temporary arresting powers. At the head chief's camp in Mabatini (one of the villages in Mathare Valley) there are two smaller units of Administration Police that may be allowed to carry firearms with some, but with restricted arresting powers.[113] In some cases the village chairman may be able to mobilize youth groups to make provisional informal arrests until the 'arrested' person is handed over to the police.

For the ruling of the area the conflicts between tenants and shack owners are particularly pertinent and may drag the chief into detailed management of the geographical space of the slum. It also creates opportunities for rent extraction.[114] The chief (and sometimes also the chairmen/elders prospects for rent extraction has over the long haul made deep impacts of the architecture of the Nairobi slums and contributed to their housing density and their labyrinthine looks. Any new structure built may contribute to the income of the chief and elders. More importantly, from our point of view that focus on crime, is that the chief/chairman decision clusters have a deep administrative

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[112] It is, for example, impossible for researchers to do any surveys in Mathare Valley without permission from the chief and acceptance from the relevant chairperson in the involved villages. This is known by the respondents. Hence, it is not possible to make a strictly random sampling where respondents' responses are strictly independent. This is likely to affect the results. If the signals emitted by the chiefs/elders that accompany the various research efforts differ, so are the likely results.

[113] The Administration Police is another carry-over of the British dual administration. Its origin was related to the role of tribal chiefs. Administration police officers were supposed to be the strongmen of the tribal chiefs' administration. The difference in the set of tasks assigned to the Administration Police and the regular Kenya Police Service has declined and plans to fuse them have been made at several occasions. At present the Administration Pole are relatively more important in Nairobi's irregular settlements than in the rest of the city.

[114] A large, quantitative investigation into this process emphasizing the effects of ethnic matching between chiefs, structure owners and tenants on rent extraction in Kibera has been recently been published (Marx et al, 2013). In a companion work we will look more closely into this aspect of the chiefs' and thereby the state's administrative control of slum areas in Kenya.

interests in guarding the housing and households conditions and watch conflicts closely, an interest that may or may not be reinforced by their own private economic interest in the outcomes. In any case they will be *informed* about rent conflicts and attempts of land grabbing inside the area. The information accessed through the handling of housing conflicts, the coming and leaving of new tenants and the myriad of other interpersonal conflicts, is likely to spill over when these decision and information clusters (chief/assistant chief/chairman/elders) are handling crime. There are likely to be increasing returns to scope to the number of different sector involvements when ruling or policing these fairly socially closed areas.[115]

When a resident in Mathare Valley has been a victim to crime, she will not and is not supposed to contact the police directly. She will contact the chairman or an elder. Then he and the victim may resolve the crime in the same way as an interpersonal conflict, or he may call the chief or the nearest assistant chief. Again the case may be resolved through cooperation between the victim, the chairman and the assistant chief, maybe involving neighbors. Or the chief may call the police, preferably the Administration Police located at the chief's camp. In more serious cases –like murder – the assistant chief may contact the regular police directly. – We see here that the semi-public system of the chairman-chief cluster shoulder a large share of police tasks. They investigate the crime, locate the guilty, may sometime return the stolen asset and ration the cases that eventually are brought to the attention of the regular police which have the monopoly of formally registering crimes[116] and bringing the subset of those further to the courts. Neither chiefs nor the Administration Police have such rights nor do they have the same formal arresting powers. The chief-chairmen conflict-resolution clusters may also, as implied, work like an informal judiciary.[117]

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[115] The importance of returns to scope for the ruling of an area has been analyzed in another context by Gambetta (1993) where he showed how the Sicilian Mafia supply of private protection could also generate decreased costs and increased efficiency and profits as the number of sectors and individuals protected increased within a high crime, socially interlinked area. Public policing inside high crime, low trust slums are likely to show some of the same features, although it may not appropriate any private increasing returns when the public officials are non-corrupt.

[116] The police are likely to do severe rationing of actual crimes in their registration procedures. If not, a police officer in Kenya would only handle about one criminal case a year according to the official crime statistics, as observed in Andvig and Barasa (2011).

[117] When we did our 150 respondent questionnaires November 2012 it was only one of our four focus villages, Mashimoni, where the police were reported to be the 'major security provider'. Checking for an explanation we were told that at that time the village chairman insisted that the village dwellers should report real crime incidents directly to the police, not go through the chairman- assistant

Sometimes the residents resolve the matters on their own, and at times violently so through more or less spontaneous vigilante actions without any formal involvement of any elder. In this case it is not initially brought into the public policing system – neither through the chief nor the police except if the suspected thief is killed. Then it will definitely become a case for both the chief and the police. When information about forms of crime that may inspire such vigilante actions and they take place in villages where such forms of action are common, the police will seek to act quickly. Vigilante killings are delicate and time consuming matters.

So what are the relationships of the regular police to the policing of Mathare? While they do some regular patrolling of the villages – most of the times driving in a police car on the couple of roads that are (barely) accessible by car in Mathare Valley and mostly at day time, [118] they otherwise have little contact with the slum dwellers in their living quarters. The police do not collect bribes from the households for eventually providing protection against crime, but they do so from business operations that are located in solid structures, or need to operate at late hours or selling illegal goods.[119] Here the larger illegal, moonshine or chang'aa distilleries are of special interest since they both historically and at present play an important role in both the economic, crime and policing patterns in the valley.

Otherwise many police officers may charge minor bribes to respond to for victim crimes, but as indicated above this appears to be rare since the police are mainly called upon for sorting internal valley crime issues when these are of major kinds such as murder or larger arson incidents. In addition to the collection from the enterprises, most of the bribe income for the police in Mathare Valley (as elsewhere) is through extortion connected to its arresting power. This income may become considerable although the residents are mostly poor, but the police have at times a high propensity to kill in the area partly because of the high degree of the perceived danger and hostility shown to the police. When the political and social tensions increase in the area, it will also make police work more dangerous and make the extortion rates to increase.[120]

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chief- link. This was interpreted more as due to laziness than as a principled stand on the part of the chairmen. When we returned in March 2014, a new chairman had been appointed/elected.

[118] During the last time we visited Mathare Valley we were informed that the nearby police stations cooperated in sending night patrols through some of the highest crime risk areas due to increased tensions in the 3C village.

[119] We were informed that the standard rate for this service (or bribe) is 100 Ksh per day, i.e. about 3 000Ksh per month. The payers may expect to receive faster response than when ordinary victim crimes are reported to the police.

[120] We did not do any systematic study of police corruption in Mathare Valley, but in Andvig and Barasa (2010) we study the relative role of extortion to explain the

The fact that the police only interfere in slums like Mathare when major crimes are committed and their lack of incentives for engaging households, means that the police have few opportunities for cumulating knowledge of the area. The possibilities that the chiefs have in gaining increasing returns to scope through daily involving in various sectors and forms of conflict are missing It does not help that the police officers' rotation rules do not allow them to stay long in the area. Moreover, the responsibility to intervene in case of serious crimes is shared among several local police stations. A deeper reason for the difficulties the police have when intervening in the Valley, is the general distrust of that agency that is ruling among the residents, a distrust having long historical roots, but fed by frequent incidences of corruption and unnecessary violent behavior among the police, confirming the distrust and the wisdom of not providing the police with too much information. – Part of that information is collected in the chairman-chief clusters, so most of the time the police like all other outsiders have to rely on them in order to intervene in the more serious crime tasks which remains the monopoly of the armed police.

high rate of corruption victimization due to the police in Kenya. When social tensions increase such as during the Mungiki killings by the police in 2007, the credibility threats of being killed when incarcerated increases and the willingness to pay for being released from jail or not being arrested increases considerably. Kenya National Commission on Human Rights (2008: 37) reports that during this period of police killings an extortion racket at Muthaiga police station – one of the police stations active in Mathare Valley was collecting Ksh 400 000 – a week from victims in Mathare North, a neighboring slum to Mathare Valley.

7. Short description of four neighboring villages in Mathare Valley[121]

Looking from the outside the four villages we choose to study more closely, 3C, 4B, Mashimoni and Mabatini, look quite similar. Their architecture are dominated by densely packed single-floor shacks, mostly composed of corrugated iron plates and sprinkled by a few multi-store residential houses, some public buildings and along the southern edges, a few solid business plants. The visible difference in income levels appears not to be large; most residents in all of them are poor.[122]

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[121] In the first part of the research which this paper is based on, we first took a fairly small representative sample (but large enough for making judgments on Mathare Valley only as a whole) of about 150 households from 9 villages) where we asked respondents for information about a broad set government supplies of public services and infrastructure, including security services. In connection with the latter we also asked about their experiences as crime victims. In this questionnaire we could not go as much in detail about the kinds of crime their induced economic loss and much other crime specific information due to the broadness of the issues we had to cover. Analyzing the responses to the different security questions we had asked about, we found strikingly different views and experiences from four spatially close villages in Mathare Valley where we had at least 25 observations for each: 3C, 4B, Mashimoni and Mabatini. This questionnaire study was made in November 2012. To explore whether these village differences were random or not, we had not resources to replicate the study with larger number of respondents so we chose to investigate whether the differences were recognized by well-informed people in the villages themselves who would know the area much better than it would normally be possible for any outsider to do, researchers or not. Accordingly we interviewed 8 knowledgeable informants (assistant chiefs, chairmen and elders) about the difference in security situations in the four villages in February, March 2014. They were interviewed separately and we did not use any focus groups. We used a separate question sheets for the chiefs/assistant chiefs who have cross-village responsibilities and the chairmen/elders who only have a village responsibility.

[122] The large Muungano Support Trust (2012: 22) survey reports significantly different average income levels across these villages, however, but they are difficult to trust. For example, while the reported monthly income in 4B was Ksh 9 282, it was 6 767 in Mabatini. That is, residents in 4B seem to earn 30% more. On the other hand the respondents 4B reported to spend Ksh 5 775 on food, while in Mabatini they told that they spent Ksh 9 600. That is, people in 4B appear to afford only to spend 60% on food of what people in Mabatini could. Given the income levels we are considering here, the answers to these questions are obviously inconsistent. If we may trust our visual impressions, the housing in 3C

4B is located at the north side of the Mathare River with access from Thika road over difficult to drive dirt roads. The key part of the village slides down through fairly steep paths towards the river. One footbridge across Mathare River is connecting 4B to 3C. 3C like the other villages are located at the south side of the river with access from Juja road that borders the whole settlement from the south side. Close to Juja Road they are fairly flat, but slides down –in parts steeply so – towards the river. Along Juja road there is located a number of business activities and bus stops that connect Mathare Valley to the outside world while Thika Road is more like an autostrada with few local business and transport activities.

According to 2009 census Mabatini has only somewhat more than 1000 residents, while the other three villages have around 5 000. These are likely to be underestimates and we may roughly multiply each with two to get closer to the real number of residents.

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appeared somewhat more solid – on average – so we would expect respondents there on average to be slightly better off.

8. Crime and crime control in Mathare Valley: victimization crimes

In the case of victimization crimes some citizens are hurt in a direct and visible way either corporally or economically or both. Their human or property rights or both are violated. Other citizens gain from acquiring other people's property. Prospective victims may seek to protect themselves individually or collectively. Collective organization may be either based on pure collective actions or may be based on delegation. Prospective predators may do likewise: Either seek to take other people's property each on his own or organize themselves into gangs. (Delegation appears here more rarely.) In both cases instruments of violence may be a precondition for success. For a single individual criminal insider it is difficult to apply it, however, without increasing the risks of being recognized. Hence, it difficult to perform violent crimes successfully for an inhabitant of an area where considerable mutual monitoring is taking place – such as in a slum or in the countryside. When organized on the other hand, recognition may not be so risky, and may even be sought, since a group of criminals may become able to control an area precisely through use of violence.

Protection of private property is one of the major tasks of the state not at least in a market economy like Kenya's. The main institution that is entrusted that task in a traditionally organized modern state is the police. To be able to achieve it, the police will need instruments of violence, and in a traditionally organized state it is entrusted with a monopoly of legitimate use of violence (including its eventual delegation to non-state agencies) for use against and for the protection of the inhabitants of an area under its control. If criminals are unorganized, police would not need to be organized in larger groups to keep control, and if they only apply light weapons, the police would not need their weapons to be heavy either. The standard perception is that crime levels in slums in Nairobi are monotonically high in general, and in Mathare Valley in particular. Ndungu (2010: 104) finds, however, that crime victimization rate in Mathare is around average when Mathare is compared to other slums in Nairobi. During the past year 44.7% of Mathere respondents had experienced at least one crime while 34.1% had done so in Kibera, 47.9% in Mukuru and 58.3% in Korogocho. Moreover this is not an exceptionally high rate when

compared with victimization rates for Nairobi as a whole from a number studies. [123]

In our own survey from Mathare Valley we found a slightly lower rate than Ndungu, 61 out of 151 respondents, that is 40.4%, had been a victim of crime, but this was not any larger difference than we would expect since we had a rather share of female respondents than Ndungu and given the high variation in outcomes for such victimization studies. Looking more closely into the intra-settlement variation in reported victimization rates in conjunction with information about the crime perpetrators and security providers, it is likely that the crime rates are influenced by a number of quite localized factors that are missing out when crime experiences are aggregated over larger slum areas. The outcomes as well as the forms of the various state interventions into the different contests between the crime making and crime avoiding slum dwellers differ according to how these two sides are organized, which appear quite localized and seem to vary between the different villages in the Mathare Valley settlement.

The villages we look into here are *3C, 4B, Mashimoni and Mabatini*. Some of the demographics and geographical locations have been described in the preceding. 3C and 4B are neighboring villages, but divided by Mathare River. There is a bridge connecting them though. Mashimoni and Mabatini are cut off from 3C by no 10 (where we have no respondents and have done no research) and located about 2-300 meters to the east of 3 C and 4B, but close to each other. We note that the ethnic composition across the villages vary, but that the popular image of Mathare Valley as a kikuyu-dominated slum is likely to be incorrect. Only in village 3C are they in the majority:

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[123] This will not directly contradict any popular perception of Mathare as a location with an exceptional large fraction of criminals – this study cannot catch eventual export of crime acts, that is, criminal acts performed by Mathare residents outside Mathare. Seen from a residents' point of view such acts may be considered in the same category as non-victim crimes. The characteristics of Mathare such as mutual monitoring may potentially assist such export of crime. Eye-witnesses may attest to local fears as well as admiration of successful local criminals robbing victims in rich neighborhoods.

Table 1 Ethnic sample composition of selected villages[124]

Tribe/language	3C	4B	Mashimoni	Mabatini
Kikuyu/Meru	14	0	1	3
Luhya	4	5	10	12
Luo	3	17	7	1
Kamba	3	2	7	10
Kuria	1	1	0	0

In our sample the average stay of respondents in 3C is the longest (23.5 years) and in 4B the shortest (8 years while in Mabatini and Mashimoni it is 12 and 15 years).[125] We should in particular note the difference in composition of the neighboring 3C and 4B. Differences in ethnic composition particular with respect to Luos and Kikuyus are likely to have consequences for both the ease of cross-village expansion of eventual gangs and for cooperation between local village security providers.

The police are the main official security provider with responsibility for the whole settlement. The two main police stations with officers that most frequently enter Mathare Valley are Pangani police station with easiest access from Juja Road and Muthaiga Station that is close to Thika road, but apparently no station has sole responsibility for the settlement. In addition the police on active duty are rotated and are unlikely to possess fine-grained knowledge about the slum and its villages. Most patrolling appears to be done by car which implies that most of the village areas will be outside their purview since there are few streets that are wide enough to allow. According to our respondents the police don't collect bribes systematically among residents for supplying security. This may not be surprising

Table 2. Main perceived crime perpetrator group if any: # Respondents

Crime perpetrator	3C	4B[126]	Mashimoni	Mabatini
Neighbors	2	2	17	5
Internal gang	23	11	1	0
External gang	0	11	3	10
None	0	0	0	12

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[124] The visit to Mathare was made in November 2012. The sample size was 25 for each village except for Mabatini where we had 26 respondents. Efforts were made to avoid having respondents living too close to each other. It was taken at daytime so women were overrepresented and the crime rate then to be slightly underestimated. Village sizes were around 5 000 except for Mabatini (see Table 1.).

[125] Note that our results may be biased here since we visited only at daytime. (We believe that the bias may on average make us overestimate the length of stay).

[126] One respondent claimed he/she didn´t know.

Table 3:# of respondents experienced crime or feeling unsafely

	3C	4B	Mashimoni	Mabatini
Experienced	12	13	7	4
Unsafe	25	12	6	7

Table 4 Perceived main security providers and expressed security satisfaction

Main provider	3C	4B	Mashimoni	Mabatini
Police	3	4	10	4
Chief	2	3	6	4
Neighbor group	0	2	4	24
Elder/chairman	1	13	3	2
None	19	?	0	0
unsatisfied	25	14	11	9

The ethnic composition of the villages varies considerably, which may have important consequences for their policing, crime patterns and ruling. The local beliefs are that 3C is dominated by Kikuyus, 4B by Luos while the ethnic composition of the other two villages is more evenly mixed. These beliefs were confirmed by our small samples: in 4B our sample included 17 Luos (out of a sample of 25) and no Kikuyu, in 3C we had 14 Kikuyus and 3 Luos while in Mashimoni we had 10 Luhyas, 7 Kambas and 7 Luos and in Mabatini 12 Luhyas and 10 Kambas. The once commonly held belief that the Mathare Valley is habited by the Kikuyus appears to be wrong, however, belonging to history. For our four villages together we had sampled 31 Luhyas, 28 Luos, 22 Kambas and only 18 Kikuyu/Meru.

Particularly relevant for the distribution of crime patterns among the villages is the difference in the ethnic composition of the neighboring 3C and 4B. Conflicts here often reach the newspapers and seem to reappear when political tensions evolve nationally.[127]

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[127] Just before our research group arrived in November 2012, *Voice of Mathare* (October 31, 2012 tells that the night before a 'raid' was organized by Mathare 4B members hunting for a thief from 3C who had stolen a television in 4B and who was believed to be a member of a small gang, called Shantit. The outcome of the raid is not described, but after we left the area, a more serious sequence of events took place: a man from 4B was stabbed to death when walking through 3C. Witnesses from 3C described him as a thug, but it was more likely that he was perceived to be a police informer. The aa group of 20 or more from 4B burned down 30 shacks that caused one death. Residents from 3C revenged the action and stabbed three more from 4B, who again retaliated by burning down 20 shacks in 3C. In a raid where one man was burned to death. The raiders had closed the doors before they put on the fire. A summary of the story is published in *Daily Nation* (January 10, 2013).

The public crime prevention systems were (in November 2012) and are (March 2014) the same for all villages with two exceptions. While the Muthaiga police station is mainly responsible for 4B, Pangani police station is closest to the other villages and is mainly responsible for them. The division of responsibilities is not strict, however, so police from both stations as well as from Huruma Administration Police Post may intervene in the area. Moreover, the Assistant Chief who is responsible for 4B is not responsible for the other three villages that have a different Assistant Chief. The head chief is shared by all, however. His camp is located in Mabatini, at the south-east corner of the settlement with access from Juja Road. In his camp are located two smaller Administration Police units that are more frequently called upon in minor incidences, or when the administrators will need protection.

9. Village variations in crime and policing patterns: random variation or hidden structures?

Despite the strong similarity in both architecture – the dominance of single floor shacks that facilitate mutual monitoring among residents and the shared difficulty in penetrating their narrow paths inside – the poverty levels and the formal crime prevention structure; the crime patterns as well as the crime prevention behaviors and the dominant concerns about crime among the village dwellers vary strongly across the villages. Or so our questionnaire data suggest.

With respect to *experiences of victim crimes* 3C and 4B were clearly the ones most exposed. About 50% of the respondents in 3C (12 of 15) and 4B (13 of 25) reported that they had been victim to at least one crime during the last year. Mashimoni was in an intermediate position where about 30% (7 of 25) with recent crime experiences while Mabatini clearly was the least hard hit where about 15% of the respondents (4 of 26) told that they had been victim to at least one crime the last year. Given the small samples these differences could have been random.

The pattern of experienced crime is, however, supported by the distribution of the feelings of *fears of crime* expressed by the respondents: While about one of four expressed felt unsafe in Mabatini and Mashimoni about half of respondents did so in 4B, everyone (25 of 25) in 3C expressed fear. When we later asked the knowledgeable informants about the ranking of the crime problem across the four villages, all ranked it the same way. They all claimed that it was something special with 3C. That was the village with serious crime problems. And they believed security in Mabatini was the best together with the upper part of Mashimoni that borders Mabatini. Lower down towards the river the crime issue of Mashimoni was more serious. Several of our respondents to the first questionnaire informed us that a major reason for moving to Mabatini was the higher degree of security of the village.

An obvious explanation of the low crime rate in Mabatini could be that the chief's camp with its contingents of Administration Police is located in that village. This is too simple, however. Looking at what respondents in Mabatini reported as their major *security provider* it was

not either the police (4 of 26) or the chief (4), but by a clear majority they emphasized the neighborhood groups (24 of 26).[128]

The only village that judged the police to be the major security provider was Mashimoni (10 of 25), and here the chief was also important (6). If we divide the security providers into security provided by the state (chief + police) and security provided by the community itself (neighborhood groups + chairman/elders) Mashimoni was the only village where the respondents considered the state representatives to be the most important. [129]When we later probed why the police and chief were considered as more important as security providers than elsewhere, we were explained that the chairman at that time did not follow the standard lines of reporting crimes and insisted that the Mashimoni residents should report any crime to the police and not bother him. Hence the police became important.

In 4B again, opinions regarding the role of the various potential security providers differed. Here it was the chairman/elders who were considered the most important (13) while the chief (3) and police (4) were set in the backseat. A likely explanation is that the chairman had organized a permanent youth group that allowed him to control people caught in a criminal act before eventually bringing them to the police for arrest.

The 3C opinions regarding security provisions were somber. The large majority (19 of 25) told they had no security providers at all. This reinforced grimness expressed when we asked whether people felt safe. We remember that in 3C none of the respondents had felt safe.

Not only varied the villages with respect to rate of crime occurrences and beliefs regarding how they were policed. The beliefs regarding who were the main crime perpetrators also differed widely. In Mashimoni

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[128] When asked about what the respondents considered their main security providers we listed several alternatives and allowed them to underline more than one alternative, although we asked about the major one. –That is we allow more reported major security providers than respondents.

[129] The view from our four villages that the police play only a minor role for security provision seems to be held more generally. In a World Bank study of two other slums in Nairobi: Korogocho and Viwandani (World Bank, 2010: 234) where the respondents were asked to name the three groups that are 'doing the best job in reducing crime and violence in the community', only 4.4% of the respondents in Korogocho mentioned Kenya Police and 6.5% the Administration Police while 70.5% referred to 'vigilante groups' as doing the best job. 10.5% mentioned the local chief/assistant chief. Viwandani too had vigilante groups as the most important security provider, but less so than the respondents in Korogocho. Otherwise they held the Administration police in higher esteem as they also did the 'neighborhood organizations'. It is worth noting that the meaning of 'vigilante group' is not clear. It may embrace security provision made by local gangs, or ad hoc or permanent neighborhood groups using violence.

most believed that the main perpetrators were 'dishonest neighbors' (17 of 25). In Mabatini many believed that there were not any crime perpetrators worth mentioning at all (12 of 26), but many believed that members of an external gang caused much of the crime (10). In 4B the opinion was divided between 'external gang' (11) and 'internal gang' (11). In 3C respondents were not in doubt. The main perpetrators belonged to internal gang(s) (23 of 25).

Exploring whether these varied patterns of perceived perpetrators, security providers and raters of crime experiences across villages were due to chance or reflected patterns that people knowing the area were aware of, we asked the local well-informed informants (March 2014) about the different village patterns that seemed to arise from our questionnaire data from 2012. It became clear that there had indeed existed a somewhat larger gang in 3C by November 2012, but opinions about whether any 'gang' was operating at present were a little divided.[130] The gang that operated at that time had considerable influence on the chairman of 3C who even had gone so far that he in secret recorded meetings between the chairmen and the chiefs in the area that dealt with policing of the area and transmitted that information to gang members. Hence, they had had no security providers at the time. That chairman was then removed by the chief, the next one was 'cut' and made harmless from the gang point of view, but the present one appears successful although a kind of gang is still present in 3C, having about 30 members. 4B had a strong chairman with a youth group he was in control of. Mabatini and Mashimon had lower crime rates at the same time as going together with neighborhood actions while they shred both chief and police. How to explain this variation?

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[130]   Here we should note that like a vigilante group, the use of the term gang may vary and be more or less strict. For example having a gang like Mungiki in mind, none of the present 'gangs' could be considered to be a gang. We will in the following use less strict criteria in terms of size and organizational capabilities when designate a collection of individuals as a 'gang'.

10. The gang(s) in 3C: do they and their history explain the variation?

One way to explain the variation in crime experiences is to look at village 3C as an epicenter of the crime. Here at least one active gang is operating and according to our respondents in 3C is the main perpetrator of crimes in that village. All over Mathare Valley 3C is considered part of an area (including the neighboring 3A –Bondeni) that locates criminals who are perceived to be involved in crime in the other villages (and sometimes in crime in Kenya at large).[131] The crime rates as well as crime worries appear to decline with the distance to 3C. If the gang behavior in 3c is explained and is crime stimulating, then an important part of the variation may be explained by the distance from the epicenter.

Let us first note that this area has a *history* of gang formation. One important historical legacy was the larger chang'aa distilleries that had been located at the 3C side of the river, being an important and old source of income. Non-victim crime is normally an important stimulant to organized crime since the markets for illegal products and services will need some quasi-legal protection which again may demand some illegal use of organized force.[132] Based on field work from 2005 and long stays in Mathare, van Stapele (2007) describes how the Mungiki gang moved into the area from the mid-1990s and took partly control of it; recruiting also a number of local supporters and members.[133] Its

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[131] One of our informants told us that recently 'seven boys from 3C' had been killed by the police in Western Kenya, an event that signaled to the informant that a Kikuyu-based gang from that village had developed a network in the Luo-dominated 4B village.

[132] Our informants denied that the owners of distillers employed gang members for major tasks at present, except the minor one of keeping honest police officers out of the village by stone throwing. Before Mungiki arrived, it appears that the illegal protection services for the distillers were mostly supplied corruptly by state employees, police officers and sometimes the chief/chairman/elders clusters. Given the large number of residents involved in the chang'aa trade, it would have been difficult for the latter to repress distillation. Police officers were in a better position to squw\eese the owner, since they had a reputation for indiscriminate use of violence anyway.

[133] We could also go further back to the early 1970s where the Kanu youth did many of the tasks in Mathare (cf. Hake, 1979: 152-153) that Mungiki later did, but was of course under more political control and received only small compensation for their protection work. Like Mungiki the Kanu youth could switch between

ideology was to a large extent based on old Kikuyu religion and notions. The links back to the Mau Mau movement were clearly articulated. In this context it meant that the gang could expand more easily into the Kikuyu dominated parts like 3C. Moreover, having an articulated ideology assisted the movement in becoming more disciplined and larger than if its single aim had been to generate income for its leaders and members. In the villages of Mathare, like 3C, where it had at least partial control, it did regular night patrolling, provided security against thieves and burglars, tried to contain alcoholism, and for this they charged 30Ksh a month from each household (ibid.: 91). While van Stapele was not able to get to know in any detailed way how the protection fees were collected, but their existence presupposed some central administrative control to prevent gang members to collect more than once from the same household and the protection money somehow had to be brought to a center and then redistributed. So the collectors could receive some remuneration for their efforts.

At the very least Mungiki members would also have to be prevented from stealing from the households that paid the fees. That is, discipline was necessary.[134] Stealing also went down according to van Stapele's informants. More or less gradually it increased its local power getting involved in a myriad of local conflicts (like the chief/chairmen clusters) catching increasing returns to scope. Some of them brought income. Members of Mungiki solved non-member debt conflicts at the same time as some members lent out money at high interest, which they could safely do, being backed up by an organization with so strong violence potential. In 2002 Mungiki took control of the public toilet from a local multi-tribal gang (ibid.:92), and people either had to pay the Mungiki gang 2-5 Ksh per usage or 50Ksh per month. Mungiki took also control of local (illegal) electricity supply (250Kah per month) and water (100Ksh per month). None of these income sources brought them into direct conflicts with the police, however. Protection or extortion money from local business did.

Around 2005 the Mungiki security charges were 50Ksh for small businesses per month, 100Ksh for a small chang'aa café, 200 Ksh for a larger one. A kiosk at the main road had to pay 1000 Ksh per week.[135]

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supporting the slum dwellers and the structure owners. 3C is not the only village of the Kikuyu-dominated part of the Mathare Valley where Mungiki once had strong influence, and where present gangs are likely to operate. A famous center for drug trade and trade in stolen goods, Nigeria,(*Daily Nation* , September 11, 2012) is located in Village 2/3B. The multi-story housing village Mlango Kubwa (the former Village 1) is said to be a center for renting firearms (*Daily Nation,* April 18, 2013).

134 Apparently they were also quite successful in a period. The main informant to van Stapele told (ibid.89) that Mungiki 'have reduced robbery and rape to zero'.

135 The information about the rates charged by Mungiki in Bondeni (and thereby also 3C) is based on van Stapele (2007: 91). Most of her assessments are pretty close

To start a bus route from a Mungiki-controlled bus station, demanded a one time fee of 20 000 to 60 000 Ksh, and a daily protection rates of 200/300 Ksh. Moreover, through its evolving control of the matatu industry it could supply some of the local youths paid jobs. But these were areas where also the police were also charging extortion fees. Serious and violent conflicts arose.

A local conflict about extortion claims triggered the final, brutally imprecise police action where Mungiki's control of the area was broken. [136] In that action the Mungiki controlled villages were fenced in by about 500 police officers, mostly the paramilitary GSU. 30 to 80 residents were killed, mostly by the police; not all were Mungiki members. The local economic conflicts between the police force and Mungiki were, of course, not the main reason for the police action. Mungiki was a national organization that not only threatened the state's control of some slums, but also its control of the roads.

From our point of view, the main point of interest is that as a disciplined gang, coming from the outside , but through recruiting some local youths and then systematically policing the area, Mungiki could reduce crime levels and transfer some income from property owners to asset-poor youths (and to the organization). In order to achieve that, it combined extreme forms of violence with local presence where it tapped the rich sources of information the informal settlements made available to insiders. Again, the ease of mutual monitoring made possible by the dense population and the shack architecture made privacy so difficult. It was so difficult to hide from rulers, when they were like Mungiki present inside. By excessive use of terror, Mungiki lost support.

While Mungiki now has been broken for a while, its former rule is likely to have some bearings on present gang formations and crime rates. First of all, its extensive use of violent instruments is likely to

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to other assessments referred to in different newspaper sources from the period. The rates were changing all the time and were adjusted to income needs of the organization and its power to fix them. Regarding chang'aa cafes and distilleries Mungiki vacillated between wanting to close them down or to tax them, but wisely choose to tax them most of the time. van Stapele does not give any rates for the charge on the larger, capitalist distilleries along the river. The charge for a kiosk at the Juja Road she mentions is higher than in the other sources , but not so far from the police extortion rates today (100Ksh per day).

136   According to the blog *Kumekucha (July 24, 2007:* http://kumekucha1.blogspot.com/2007/07/mathare-killing-fields-untold-story-of_24.html). June 4, 2007 three policemen new to the area had been going to their nightly collection of protection fees inside Mathare Valley. On the trip they demanded 500Ksh from the female owner of a chang'aa den the lady had already paid 300Ksh to Mungiki and complained to them. The police officers had not been told about the agreements with Mungiki, and two of the three police officers were immediately killed.

have socialized and brought knowledge of the use of violence and its potential source of income for new cohorts of 'criminals'. This socialization to violence appears to have been reinforced by persistence in police behavior. On the one side police are afraid to enter the 3C and the whole .Bondeni area, and try to avoid it in many cases, but when they do, they tend to do it violently.[137] Teachers in the area, for example, have to adjust to the fact that when the police enter the area, the police before they enter the village begin by throwing some teargas. The school for that reason will be evacuated for about ten times a year. (Carr, 2013: 195). When having to intervene the regular police often go in with GSU, expecting that firearms will be used, and are ready to initiate shooting on their own.

One reason for the ease of gang formation in the 3C village may be the predominance of Kikuyu residents, particularly as they are neighbors to 4B with its clear Luo dominance, which both ease the creation of gang identity and necessitates the need for performing organized violence and some felt need for gang protection against residents with the opposite identity by ordinary slum dwellers. [138]

In a number of works dealing with the older history of Mathare – and 3C is part of the older structure – a number of investigators such as Nelson (1978, 1979), have pointed out how male youth have lost most of their economic roles in that community. Moreover Kikuyu families may also have less cohesion, being more 'modern', who may make male youth to bond into multi-purpose groups rather than with the family, groups that may turn to criminal activities.

The 3C gang(s) at present has none of the fixed structure or cohesion and discipline of the Mungiki.[139] Hence, they have not the capability of

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[137] While her stock of informants have a clear selection bias it is nevertheless telling when van Stapele (2011) finds that one of every forth youth she got to know in Kosovo and Bondeni around 2001 was killed by the police before they became 25.

[138] The importance of this conflict today may have declined, since the 2007–2008 violence, but as late the winter 2012/2013 – after our questionnaire – based investigation, the Kenyan newspaper presented following story: a man from 4B was killed when passing through 3C as he was suspected by a 3C gang that he had snitched to the police. To revenge, a gang, or a vigilante group from 4B entered 3C and put fire to a number of 3C shanties (Daily *Nation*, December 29, 2012). The police then entered, heavily armed. Earlier another vigilante group from 3A had entered 3C claiming that criminals from 3C were terrorizing them and they had then lynched one resident from 3C and shack were set on fire in both villages (*Daily Nation*, June 3, 2012).

[139] We don't know for sure whether there is only one gang in 3C, nor do we possess much knowledge about them in terms of their operations and size. That will demand an extensive field study like von Stapele's. (She discovered that there was two gangs operating in Bondeni at the same time as the Mungikis were operating. At least one gang in 3C has more than 30 members, informants believe, and has demonstrated sufficient structure to control the chairman in the village in 2012 and to kill the next one. There may be several gangs, however:

preventing crime against protection payments, but may on the contrary reward 'members' by allowing them 'piece rate pay': to let them steal and let the crime perpetrators keep most of the bounty themselves. To become a member of a gang may stimulate crimes even when the crime technology itself does not need any extensive cooperation, hence a gang; but by the gang providing social support when members are about to commit risky crimes.[140] Some forms of crimes, such as burglaries are difficult and extremely risky to perform on an individual basis, so by joining a gang the set of possible crimes to be performed expands. Hence, a village which locates low structured gangs that are unable to establish a local monopoly of protection, are likely also to have higher rates of victim crimes. While the 3C gang(s) is not part of a large national movement like Mungiki the members have been able to have some networks outside their village that also extend the set of crime possibilities not only outside the village, but also registered crimes inside the village.[141]

Let us return to the question of how to explain the variation in experienced rates of crime across our four villages? Here we have done it through a focus on 3C and how its peculiar history or structure may explain its higher propensity for gang formation and then an argument that its present forms of gangs will increase the crime rate. Mungiki-like organizations have lost influence, at least for the time being.

Then it was only a matter of variation in the degree of influence from 3C that would add to the indigenous crime generation in the other villages, an explanation doing the same purpose as a gravity model used to explain international trade.[142] This may be regarded as a plausible explanation up to a point, but somewhat mechanical. How may history be so important when the living conditions, the shack architecture, population densities and governance system appear so similar? Why do not undisciplined gangs increasing rates of victim

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Recently a public toilet was put on fire by one gang, probably in hire of a private investor. This toilet was also known as a source of gang income that asked for support to rebuild the toilet. It is of course possible that it was the same gang hat both had the toilet as a source of secure income and that destroyed it for a one time gain, but it appears unlikely. It is evident that it is also operating a gang in 3A – outside our study area so inside her Bondeni we have at least two gangs.

[140] In a novel by Meja Mwangi (1973: 62 – 65) the author describes how one of the 'heroes' in the book, Maina, finally is able to dare to perform his first real crime, a pickpocketing act, through social stimulation after joining a gang. Before joining he only scavenged half rotten food. To join a gang improved his consumption basket.

[141] Several informants mention that 'criminals' from one slum may swap areas and information from another so that they don't perform the criminal act in their home villages, in order not to spoil names. In case of police crackdowns, it becomes easier to avoid being caught if one has base areas outside the home village.

[142] Gravity theory is a well-known set of explanations for the amount of trade between two countries considered as a function of their geographical distance.

crimes arise in the other villages? A possible, but certainly weak and small difference in average strength in family cohesion does not make any convincing explanation. Moreover, the explanation does not look closely to the activities of the potential crime victims and their eventual efforts in preventing crime: why do both the main security providers and the forms of security provision vary?

11. Crime perpetration and crime prevention as two linked collective action games[143]

Let us imagine that each village is a closed unit with a given number of residents. One set of residents, Y [the 'youth'] possess no assets, the other group, A [the 'adults' or 'asset holders'] who do possess some assets, although the holders are poor. All assets are possible to steal by residents, but they have no interest for outsiders because they are difficult to steal from the outside without involving an insider. Many assets will also be of so low quality that they are only of interest for other poor.

The only possibility for a Y resident to acquire an asset is to steal it, which he may do on his own or by joining a group, become member of a gang.[144] Let us first imagine a benchmark situation where neither the Y- nor A residents are able to establish any form of collective action for either perpetrating or preventing crime, and that in this ' natural state' the crime level is sufficiently high to make residents consider the prospects of organizing around it either by Y-members or A-members or both.

The gang is of the type described in the former section that is it loosely structured and allows stealing of various forms. So it may be considered simply as a vehicle for collective action by the Y-type of residents. As more Y-residents cooperate in gangs the more will members be able to steal through social stimulation or sharing information, weapons or through the collective unarmed fighting power numbers will yield. To fix ideas let us assume that each

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143 The following should not be interpreted literally. For one thing, we don't believe economic considerations are so important and ethical considerations as unimportant as we portray them here. We make a number of abstractions, but not enough to make a logically tight model. Nevertheless, we suggest some links between security provision and crime activities that we believe are at work that may explain why the situation may differ significantly under seemingly similar conditions. Our exposition is inspired by the grabbing models in Mehlum et al. (2006).

144 An obvious objection if interpreted literally is the fact that youth are more subjected to crime in Nairobi informal settlements for most crime types except arson (World Bank, 2010: 222). On the other hand they are more often perpetrators of crime, or at least perceived to be so. In a national crime survey about 80 % believed so (Security Research and Information Centre, 2013: 43). Net grabbing of assets is likely to go in the direction indicated by the model.

collective action involves a burglary with 5 participants. If successful, only members of the break-in may get a share or they may have to share some of the proceeds with other members If caught, severe punishment is likely, so the participants will need to be defended by the whole gang that then function as collective insurance made possible by collective violent actions. Members of the gang that did not participate in the burglary, may then have an incentive to free ride in the ensuing fight (collective action) when the gang defends the burglars by force. Knowing this, the burglars will only engage in the break-in when they believe the gang will be strong enough (for simplicity determined by the expected number of gang members) to defend them if caught. The non-burglars on the other hand expect that they will participate in other break-ins and if free-riding in the protection of the burglars, they may not receive support in their break-in. Given the ease of mutual monitoring under slum conditions, this effect is likely.[145] The larger the gang the more valuable it is to be member.

But if the gang is too small to succeed in its collective protection acts, it does not pay to a member. If membership is below a certain tipping point the size of the gang will move to zero and only individual temporary break-in groups will arise. Looking at the situation for an A-member: he may either try to protect his property on his own, join a vigilante group or employ members of the Y group to do patrolling, two alternative security provision technologies.

Let us first consider the A-residents' vigilante' technology: It may either be based on ex post discovery of a crime, or ex ante prevention through organized patrolling. Under the mutual monitoring, high population density properties of slums the latter is likely to be less effective due to the high likelihood that prospective criminals will discover patrols and thereby refrain from the crime and remain undiscovered. Moreover, regarding already committed crimes, patrols can only cover small areas in which the already committed crimes are discoverable. Any neighbor may however discover crimes like burglaries all over the village since neighbors obviously are everywhere. Hence, the ex post technology where either the victim or a neighbor cries out [or call through mobiles] and a number of A-

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[145] The potential free-riding aspects will be reinforced if some of the proceeds from the burglary will have to be shared with non-participating gang members. If we regard the members of the break-in as one player and the other members as the other player the situation may be outlined as a simple assurance game with two Nash equilibria in pure strategies. One where both act as gang members and another where not anyone does so, i.e. no break-in induced by gang-pay-off nor any non-burglars willing to fight, that is no gang. The location of the mixed strategy equilibrium will be determined. To make the situation fit an assurance game we may give the gang a little bit more structure, allowing the break-in sub-gang to defect by assuming that the break-in possibility was discovered by or ordered by the gang.

residents congregate, pursue the thief and eventually arrest or kill him appears more efficient.

To understand their operation, it is clear that they are quite local. They will only defend the property of locals, but they may attack thieves from other villages.[146] To increase the preventive effects they may make the killings of the suspected thieves quite public. The police must in that case cooperate.[147] The larger share of A-residents that are willing to join ex post vigilante groups, the more successful this behavior is likely to become both in bringing a given criminal to 'justice' and overwhelm him physically. To do that by a single individual will be extremely risky and unlikely to succeed. Moreover, the larger such vigilante groups may become on short notice, the more risky and the lower the expected gain from stealing assets from A. becomes when stealing as individuals. If an Y member consider to initiate a gang creation, but prospective gang members hold the belief that joining a gang implies high risks of being killed it becomes difficult to recruit sufficient numbers to pass the threshold where one may threaten the vigilante groups and make it gainful to join the gang.

Hence, the *Mabatini situation* with active neighborhood groups and low crime rates may become quite stable. Both with respect to crime prevention and crime perpetration we have seen there are strategic complementarities involve that may allow multiple equilibrium situations. And in both cases the strategic complementarities are linked to the dense population and the ease of mutual monitoring that characterize shack-dominated slums, although that link is somewhat roundabout in crime perpetration.

Let us on the other hand imagine that we again start from the benchmark situation where we have no collective action groups among neither the A nor the Y residents, but then somehow the Y's become organized and armed. If then the A's consider organizing vigilante groups and pursuing a resident caught in a burglary, the burglar may be expected to be a gang member. Then the risk of participating in a collective vigilante action may be expected to be quite high either because the criminal may be armed himself, or because his gang members may revenge him. Hence, the vigilante group may not become established, and the *3C situation* with active gangs, high crime rates and no neighborhood groups may become equilibrium. Since the crime

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[146] An informant told us that if anyone stole something from us walking on Juja road outside the village they would do noting, not even tell us about it if they discovered one pickpocketing unnoticed by us outside.

[147] According to *Nairobi News* (February 22, 2014) there is a separate open place inside the village, called Choma Zone, where suspected thieves are lynched (burned). This is indirectly confirmed in *Ghetto Radio* (February 5, 2014) that reports that the youth are tired of this procedure that results in many innocents are killed. Nevertheless they are done with the consent of the police that only collect the burnt corpses.

behavior was in the river neighborhood parts of *Mashimoni* was close to 3C may reflect a 3C equilibrium and the other parts a Mabatini one.

To analyze 4B along these lines we may note that the A-residents may not only use spontaneous vigilante groups, but may also engage Y residents for patrolling and making temporary arrests of residents caught in making a crime. Such youth groups wielding force on behalf of the A-residents may –like the police – keep the size of crime-making collective actions below the self-expanding levels both through possessing a sustained capability of reacting collective force themselves, and by possessing fine-grained knowledge about the Y-residents may increase their risks of being caught by the police. *The 4B situation* is rather complex and it may not be stable: Both the A and Y residents are organized and capable of collective actions, but the Y residents' organizations are split between a crime-making and a crime-preventing one.

Somewhat speculatively, one possible partial explanation for the difference between 3C and 4B is difference in family norms between Kikuyus and Luos.

An extreme assumption in our model is that assets holders keep all assets themselves, and the only possibility for Y-residents to acquire them is to steal them from an A-resident. That assumption is closer to reality when the family norms emphasize independence, that the youth are responsible for their own career, a Kikuyu caricature. When assets are shared in the family and shared by their Y and A residents, a Y resident get access without stealing and may have interest in defending the assets against it being stolen by outsiders. This is closer to the caricature of a Luo family.[148]

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[148] Iliffe (1987: 181) observes that 'Luo immigrants to Nairobi in 1968-69 could expect much more hospitality than other tribes'. While difference in family sharing norms is likely to have lessened, some may persist.

12. Policing high and low crime rate slum villages when the police are and are not corrupt

The police are rarely going into any of the slum areas by themselves and collect information by patrolling or receiving it directly from victims or witnesses. They will rather rely on information from the chief/chairman cluster to catch the individual criminal. This is likely to work without much difference whether the police officer is corrupt or not with respect to victim crimes in low- crime–no-gang areas like Mabatini. The residents are unlikely to report no-victim crimes like chang'aa brewing, however, and they will not give any information about vigilante killings except the fact of the killing. If uncorrupt, the police are unlikely to be very interested in non-victim crimes, but when corrupt, these are very interesting indeed. If corrupt, the police will collect bribes from business in the area, but will in general and in normal times be careful not to collect too much on its incarceration powers. It will in general be worthwhile to keep such villages as easy policing areas rather than try to maximize possible bribe collection from them. If corrupt, the police will have a monopoly of extortion from the A residents in such villages. Gangs are not competitors.

In villages with strong gangs, however, it may be very risky for the chief/chairman cluster to provide correct information about crimes like killings or major burglaries. They may risk to be killed themselves, as it has happened in 3C. Non corrupt police may try to close major non-victim crime activities such as chang'aa distilleries while corrupt police may be somewhat more lenient and only ask for bribes from them in high crime areas.[149] In general, since it is both dangerous to move into such villages for small police units and difficult to get correct information, the police tend either to enter villages like 3 C only in large groups, often with a threatening posture. Since they may reasonably expect to be met by violent resistance, the police will often kill under such operations. Partly in order to prevent later threats by gang members against witnesses, it is not so rare that the police may

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[149] We were told that corrupt police could enter 3C undisturbed, while non corrupt would be exposed to stone throwing from youth hired by distillation owners. The stimulating effect from non victim crimes on gang formation makes it more important to try to reduce their influence. Conflicts about the distribution of extortion rates between the police and gangs may however become salient, as we saw in the Mungiki case.

kill gang members when incarcerated.[150] A presence of a killing possibility is likely to increase any extortion bribe rate which may have some impact on police behavior when corrupt. While the police are said to hesitate before entering villages like 3C giving longer response time when crime is reported;.on the other hand the distilleries have so large bribe collection potential that corrupt officers 'patrol' 3C more often than the other villages.

Both corrupt and non-corrupt police officers may either seek to restrain the size and influence of the gangs, or let them evolve in piece. If the latter, a non-corrupt police will just be lazy and non-committed. A lazy corrupt police will simply accept bribes from gangs for not disturbing them. When fighting them, a non-corrupt police will seek to arrest and link as correctly as possible gang members to the relevant crimes, eventually kill members in regular fights. A corrupt police force will consider a gang as a rival for rent extraction from the area, seek to weaken it in various ways, including use of extra-judicial killings and tap some of its income sources. Since the police are not doing so much in terms of daily interventions into the slums, it will not be involved so much in bribes in connection with individual crimes – this is more a potential area for eventual corrupt chief/chairman clusters, but may tap this source through the extortion connected to the incarceration processes where the police have a monopoly.

Despite all the weaknesses and injustices connected to both the policing of villages like 3C, even a corrupt police are likely to reduce the size and criminal impact of gangs in such areas as long as they mainly remain police officers and don't join them as active members, a possibility suggested often in Kenyan newspapers.

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[150] Among the Nairobi police stations Pangani (the neighborhood station to Mathare Valley) had the highest number of persons killed, nine, while in custody in 2013.

13. Concluding observations to part II

Looking at the broad sweep of the distribution of crime rates and murder rates across continents, their wide variation across similarly poor areas is striking with Latin America and South Asia at the opposite extremes (Andvig and Shrivastava, 2009). Here we have gone into a very small area and seen how four close neighborhoods with similar poverty levels and architectural and geographical features, may generate quite different crime rates and modes of organizing both crime perpetration and prevention.

This variation across similar geographical space does not mean that the slum architecture and geography are unimportant for the crime and policing patterns. On the contrary, we have intended to show how the density of the population as well as the characteristic of mutual observation and monitoring, have influenced the various organizational permutations we can find in the area, including the forms of strategic complementarities that may shape the variation. One may wonder why that variation seems to follow village boundaries.

Here we may note that some of them have different history, but it may also be the case that the chairmen/elder institution is significant and that follows village boundaries. They may be able to have impact on both the gang formation and vigilante organizations in their area of responsibility. Moreover, the vigilante mechanism is also clearly operating as a defense for village members only.

We have noted that the policing tasks are distributed differently than in the formal Western forms of policing, and in ways that give wider scope for civilian participation, partly because the regular police are less involved in these particular social and economic spaces. This task distribution is not necessarily inefficient, so care must be taken before the Western pattern eventually is imposed.

The large variation in police tasks and difficulty in close neighborhoods suggest the importance of being keenly aware of the organizational details in the social and economic spaces to be policed. It is noteworthy that we unlike what Habyarimana et al.(2009) found for voluntary security provision in Kampala, find indications of more cooperation in crime prevention in multi-tribal neighborhoods like Mabatini and Mashimoni, than in one-tribe dominated neighborhoods like 3C. This may be due to the possibility that tribal factors act even stronger in gang formation, or it may be easier not to consider the tribal

composition when one enters low violence, low crime areas. While having some impact, the police activities are not likely to make any major changes on crime rates. Nor are changes in police behavior, at least not in the short run. Here economic measures are likely to be more significant. The reason is simply the following that – as we read the situation – the distribution of assets/asset expectations across youth and adults drives much of the underlying benchmark crime behavior in the villages (crime rates without any collective action on either side of the crime fence). The one instrument likely to drive that benchmark down is to generate jobs for youths.

This is not any surprising and by itself any original piece of observation. The residents themselves agree on that. But what may not be so obvious is that the kind of 'social multipliers' we have outlined, open up for the possibility that the creation of even a few jobs for youth, particularly when addressed to youths in 3C, may reduce crime rates in a substantial way. The tentative observation we made that vigilante activities, although ethically revolting, may be somewhat effective in containing crime may be interesting, but is ethically unappealing. Moreover, that institution may have to keep alive for a too long time before it may stimulate local investment and generating growth through keeping crime rates down. Moreover, the institutional conditions may not permit it to be implemented due to gang forces. To reduce youth unemployment on the other hand will work at once and give development as well as prevent crime. There is also difficult to see any social and economic forces inside the villages that will actively seek to prevent its economic and political support. But to do it in larger scale need active central government support. Given the minimal weigh of poor slum dwellers in the ruling political preferences, it is difficult to see how that support may be forthcoming.

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Appendix: Maps and other visual guides to Mathare Valley space

Map 1: Map of Mathere slums

Map of Mathare Slums, Nairobi-KENYA
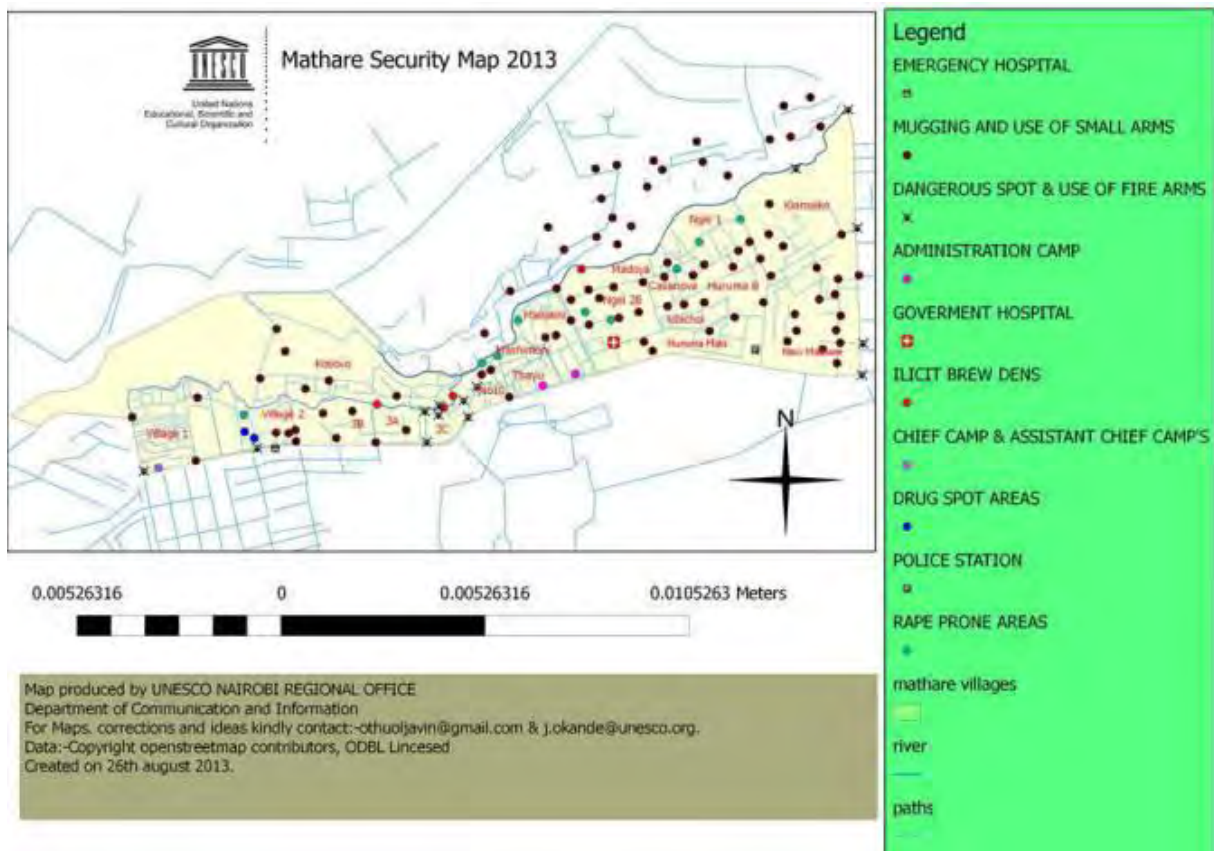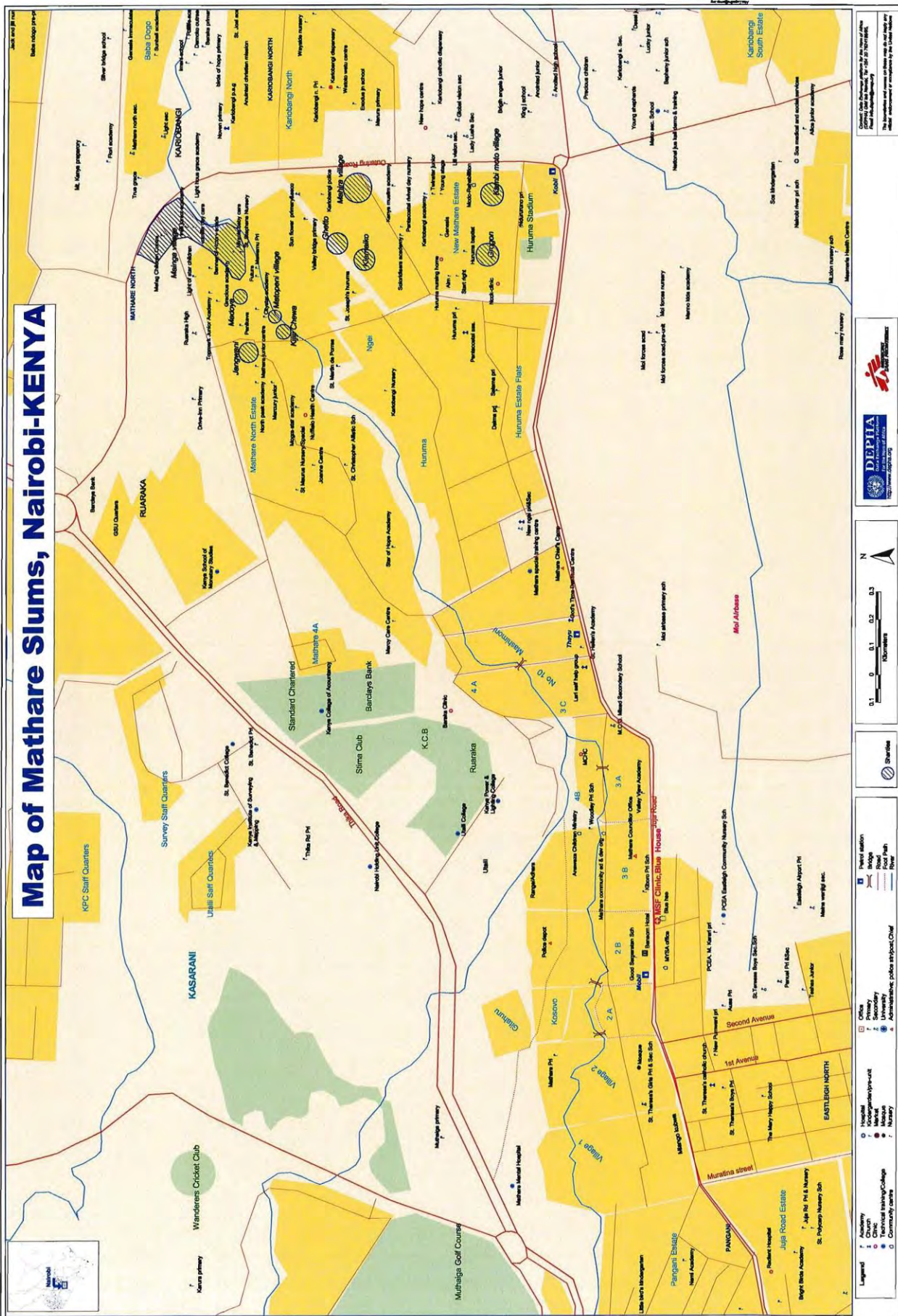
Changaa brewing in daylight Mathare 4B