INVESTIGATING INFORMAL DEVELOPMENT: A CASE STUDY OF KIBERA AND SULTANBEYLI

by

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A REPORT

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Abstract

As global development trends continue, planners and social scientists of the future will have an increasingly pressing responsibility to effectively and sensitively address and interact with informal development. This report seeks to provide theoretical research to expand the knowledge base of planners and social scientists with respect to informal development. It aims to begin to explore and explain how informal development and living conditions interact, and to understand what the role of the planner and social scientist should be in interfacing with informal development in the future. Through case study this report considers two distinct typologies of informal settlements in order to compare and contrast factors in each settlement's history and development, living conditions, and overarching administrative relationships to identify trends in the development and manifestation of informal settlements.

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CHAPTER 1 - Introduction

Across the globe in Africa, the streets are alive with activity. Young children climb a hill in their village. Vendors call out to passersby as they sell their wares from kiosks that line the streets. A group of women and children bustle past with large cans of water in tow. Yet this scene is far from forgettable. The hill upon which the children play is no earthen mound, but a pile of rotting refuse. The streets, haphazard lined with huts of mud and corrugated steel. In this village, collecting water from common access points is a tiresome daily necessity for women and children. This is an informal settlement; this is Kibera. Further north in Turkey, automobiles move along wide, paved streets waving flags of support for two soccer teams playing in the evening. As two men argue politics in a climate-controlled kebab shop off the street, a faint bell announces each new customer's entrance. Above in a cluster of fully serviced apartments a family watches a movie together in their living room. This urban environment, indistinguishable from any other urban area in Istanbul, is an informal settlement; this is Sultanbeyli. Kibera and Sultanbeyli are two settlements linked by a common definition that exist in juxtaposition. Both settlements developed informally in conjunction with large spikes in rural-urban migration, yet the quality of life and living conditions within these settlements vary drastically and there is very little inquiry as to why in current literature.

Population counts around the world show that global society is urbanizing. In point of fact, statistics show a trend of alarmingly rapid urbanization across the globe, particularly in developing countries. While urbanization is not a new phenomenon, it is important to consider the implications this trend of rapid urbanization has on global development. In the next few years, for the first time ever, the urban population of the world will outnumber the rural population. Arguably, this milestone has already passed given the inaccuracies of Third World censuses (Davis, 2006). This rapid urbanization represents a monumental paradigm shift in the location and concentration of the global population, and it is not without serious concerns. It is estimated that 95 percent of population growth over the next generation will occur in the urban areas of developing countries (Davis, 2006). With limited capacities' for governance, inadequate planning, and inaccessible formal land markets, these urban areas in developing countries are often ill equipped to responsibly manage population influx through legitimate formal frameworks. As a result, many are forced to pursue development outside the formal framework,

often manifesting in poor conditions: "In 2001, 924 million people, or 31.6 per cent of the world's urban population, lived in slums. The majority of them were in the developing regions, accounting for 43 per cent of the urban population, in contrast to 6 per cent in more developed regions" (UN-HABITAT, 2003). While a startlingly large number of residents currently live in appalling conditions, the situation is not projected to improve. The same report projects that in the next 30 years, the global number of slum-dwellers will more than double to 2 billion in population (UN-HABITAT, 2003).

These trends strongly indicate that planners and social scientists of the future must be prepared to effectively interact with informal development. This report seeks to provide theoretical research to expand the knowledge base of planners and social scientists with respect to informal development. It aims to begin to explore and explain how informal development and living conditions interact, and to understand what the role of the planner and social scientist should be in interfacing with informal development in the future. Through case study this report considers two distinct typologies of informal settlements in order to compare and contrast factors in each settlement's history and development, living conditions, and overarching administrative relationships. Kibera in Nairobi, and Sultanbeyli just outside Istanbul, showcase key similarities and differences that provide insight into what conditions drive and proliferate informal development, as well as what factors shape how living conditions manifest within a community. In particular, this case study highlights the role rapid urbanization, in stressing formal framework capacities, plays in informal development. In addition, this report discusses how relationships with overarching administrative entities, land tenure security, and settlement context affect living conditions, both positively and negatively, in informally developing conditions.

CHAPTER 2 - Literature Review

The concepts of informality, and all processes and settlements so-labeled, are nebulous in nature. As with many social problems, the definitions of informality, informal settlements, and informal development are often inadequate and vary across disciplines. It is therefore of paramount importance for any study examining these concepts to provide adequate research and literature review of both these and the related auxiliary concepts pertaining to informal development in order to develop appropriate operational definitions. Within the context of this investigation into informal development and informal settlements, this literature review provides the necessary base of knowledge to effectively explore informal development, informal settlements, and the role planners and social scientists play when interacting with these global phenomena.

Informality, Informal Settlements, and Slums

The branding of things as informal is an undeniably Western phenomena that essentially sprang from the work of Keith Hart in the early 1970's. Hart's research in Nima, a settlement outside of Accra, Ghana, focused on economic activity. While reviewing official census figures, Hart discovered that over half of the total economically active population identified themselves as self-employed, non-wage earning, or unemployed (Hart, 1973). Hart believed that this trend indicated a need to examine the economic activity occurring outside the formally recognized framework, eventually leading to his discussion of the previously unnamed "informal economy." Thus, exploring informality as a concept is borne of a simple desire to define activities or phenomena that are not accounted for in formal systems or definitions. In practice, this often results in the development of "catch-all classes," a means for categorizing all social phenomena that administrators, politicians and academics fail to account for in models and systems (Nustad, 2004). In light of this practice, many social scientists question the usefulness of the informal/formal dichotomy in many situations. As applied to settlements in this report, however, this dichotomy is invaluable. It provides a framework for identifying and linking essentially unique communities across the globe, providing context for case study.

Defining the term "informal settlement" is a difficult process. In some places, like South Africa, it is official terminology that refers to specific situations: "Houses (often of a temporary

nature) erected on land of which the majority have not formally been proclaimed and serviced for residential use" (South Africa Department of Environmental Affairs and Tourism, 1999). Other definitions provide more general characterizations such as informal settlements are "residential buildings built on 'planned' and 'unplanned' areas which do not have formal planning approval […] characterized mostly by the low quality houses and the lack of, or inadequate infrastructure and social services" (Ali & Sulaiman, 2006). Others indicate that informal settlements are so named because they are not legally recognized by national or local authorities (Bassett, 2001). The United Nations, often considered the authority on issues in global development, defines informal settlements as a settlement with no legal claim to the land it is on, or a settlement that is unplanned or not in compliance with the regulations of the land on which it is located (2006). In practice, this plethora of definitions shows that what "informal settlements" refers to, is a product of operational definition. The key issue discussed by all of these definitions, however, is a reference to some kind of abberration, or deviance from what is supposed to be occurring on the site in question. As such, this report operationally defines informal settlements as any settlement that has no legal claim to the land it is on, or is not in compliance with the regulations of the land it occupies.

It is important to recognize, however, that this operational definition of informal settlements necessitates further clarification. Because of its maleable nature,there is a tendency for many people to equate informal settlements with "slums," "shantytowns," or other references to marginalized settlements. This equation is incorrect. The term "slum" evolved from its historic definition as a term synonymous with "racket" or "criminal activity" to its common usage today that refers to a generalized settlement typology sometime during the 20th century. As interpreted by Mike Davis in *Planet of Slums,* slums are characterized by "overcrowding, poor or informal housing, inadequate access to safe water and sanitation, and insecurity of tenure" (2006). In most United Nations' publications, slums are defined as settlements or areas lacking at least one of four basic amenities—clean water, improved sanitation, durable housing, and adequate living space (UN-HABITAT; The World Bank, 2005). While there is overlap between the many definitions of slums and informal settlements, the terminology is not interchangeable. The common thread at the heart of all the definitions of informal settlements is a reference to some kind of abberration, or deviance from what is supposed to be occurring on the site in question. In contrast, the numerous slum definitions essentially attempt to define or

characterize the quality of a given settlement. Though the concepts of formality and quality are intimately related, they refer to independent aspects of a settlement. In short, not all informal settlements are slums, and not all slums are informal settlements. Rather, informal settlements exist along a continuum of quality that encompasses a wide range of settlements. The quality of these settlements is judged according to living conditions.

Living Conditions

The continuum of quality of informal settlements is predicated on a judgment of living conditions. Most discussions of living conditions focus on single dimensions, such as infrastructure vs. land tenure, resulting in significant debate regarding which dimension used to measure living conditions held more weight (Gulyani & Basset, 2008). For example, early slum upgrading from the World Bank focused on infrastructure upgrades and made no effort to address land tenure (Werlin, 1999). The results of these one dimensional efforts proved that living conditions are a complex amalgamation of factors. Moreover, identifying the factors, and the relationship between them, is difficult. Yet the purposes of this report it is vitally important to be able to diagram and quantify living conditions. UN-HABITAT indicates that acceptable urban conditions are characterized by access to improved water, access to improved sanitation, sufficient living area (not overcrowded), structural quality/durability, and security of tenure ("Slums of the World," 2003). In practice this characterization of acceptable urban conditions indicates that living conditions are determinants of acess to improved water and sanitation, secure land tenure and a healthy built environment. It does not, however, provide any indication as to the importance of any given factor within this equation, leaving it open to interpretation and debate. Gulyani & Bassett's living conditions diamond, however, posits that living conditions are determined by the interactions of four equally important factors: infrastructure, land tenure, the housing unit, and the neighborhood unit (2008). Encompassing the UN-HABITAT's criteria for acceptable urban living conditions, Gulyani & Bassett's living conditions diamond serves as the basic metric through which living conditions are judged within this report and is shown in Figure 2.1 below.

Figure 2.1: The Living Conditions Diamond

LAND TENURE

HOUSING UNIT   INFRASTRUCTURE

NEIGHBORHOOD UNIT
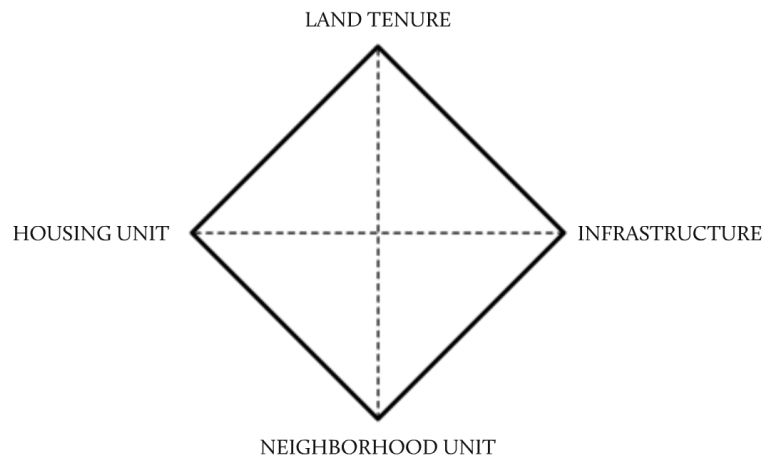
Infrastructure

According to the American Society of Civil Engineers (ASCE), infrastrucutre is clasified within four categories: water and environment, transportation, public facilites, and energy (2009). Within the context of settlements, however, these classifications are cumbersome. Water and environment for example, is an extremely broad category that encompasses two very distincly different and important infrastructure aspects of a settlement. In light of these incongrencies, this report considers the ASCE insfrastructure categories as they relate to settlements according to two basic categories, services and physical infrastructure, which are discussed in varying levels of detail. The physical infrastructure section of this report deals with discussions of the built environment, such as roads and public facilities. These aspects of infrastructure are also among the most visible dimensions of a community, particularly when lacking, and brief observations on the availability and state of these infrastructural elements provides this report with additional indications of settlement quality. The discussion of services within this report focuses specifically on access to water and sanitation with some discussion of non-essential services such as electricity, internet access, and television. Literature regarding the services aspect of infrastructure is comparatively large, and covered with more emphasis than physical infrastructure within this report.

Services are discussed in the literature and within this report according to access. UN-HABITAT's acceptable urban conditions state that a household is considered to have access to improved drinking water if it has a "sufficient amount of water (20 liters/person/day) for family

use, at an affordable price (less than 10% of the total household income), available to household members without being subject to extreme effort (less than one hour a day for the minimum sufficient quantity), especially to women and children" ("Slums of the World," 2003). In addition to these conditions, this report considers the characteristics of acceptable improved water access modes, which are listed in Table 2.1.

Table 2.1: Characteristics of Acceptable Improved Water Access

Water Access Mode
Piped connection to house or plot
Public stand pipe serving no more than 5 households
Bore hole[1]
Protected dug well[2]
Protected spring[3]
Rain water collection

Improved sanitation, like water, is discussed in terms of access. According to UN-HABITAT, acceptable access to improved sanitation is characterized by "an excreta disposal system, either in the form of a private toilet or a public toilet shared with a reasonable number of people" ("Slums of the World," 2003). As with water, characteristics of acceptable modes of access to improved sanitation are considered and shown in Table 2.2.

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[1] Refers to any hole bored into the ground, but in this case, for the purpose of extracting fresh water.

[2] Refers to a dug well that is protected from contaminants via a cover, lined walls, etc.

[3] Refers to a structure that dams an existing water source and elevates the water access point for sanitary reasons.

Table 2.2: Characteristics of Acceptable Improved Sanitation Access

Waste Disposal Mode
Direct connection to public sewer
Direct connection to septic tank
Pour flush latrine[4]
Ventilated improved pit latrine[5]

Additional services (gas, electricity, cable, Internet) are not considered essential for acceptable urban conditions, but are still highly intertwined in informal settlements. The presence, availability, and prevalence of any one of these non-essential services can be a potential indicator of a particular settlement's living conditions. When present and relevant, these services are discussed in the case study.

Land Tenure

In this report, land tenure simply refers to a system of land ownership. A fairly simple concept within the context of American property law, land tenure is among the most complicated issues in global development. Land tenure and the system supporting it is very much a product of the history and culture of a settlement, and there are many unique schemes of ownership in practice throughout the globe (Fisher, 1996). The variations of these systems aside, this report is concerned with a specific aspect of land tenure—security. Secure tenure is defined as "the right of all individuals and groups to effective protection by the State against arbitrary unlawful evictions" ("Slums of the World," 2003). This definition, however, is inadequate. Tenure security, at its core, is simply a measure of confidence. If a resident feels confident that they can

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[4] A pour-flush latrine is composed of a pan with a water-seal installed in a superstructure. The water-seal is connected to a pit by a pipe. The water-seal flushes out excreta with just enough water to drain off the solids and to restore the water level in the water-seal.

[5] Refers to a simple latrine with a ventilation pipe above the super structure to vent odors above the structure.

inhabit a parcel of land without being killed, injured or harassed, that resident's tenure is secure. In practice, tenure security can manifest itself in many ways. This security can be the product of formal documentation, but this security can also come from informal *de facto* means such as prolonged occupancy, or even a reinforced *perception* of tenure securirty ("Slums of the World," 2003). This report focuses on characterizing and gauging tenure security for comparison across case study instances in order to judge how this security affects living conditions within Kibera and Sultanbeyli.

Housing Unit

A large range of structures is likely to compose the housing units of informal settlements. Housing units are judged according to durability and/or structural quality. In general, a "house is considered 'durable' if it is built on a non-hazardous location and has a structure permanent and adequate enough to protect its inhabitants from the extremes of climactic conditions such as rain, heat, cold and humidity" ("Slums of the World," 2003). It is important to note that this concept is relative to location, as summarized by the UN-HABITAT's *Slums of the World: The Face of Urban Poverty in the New Millennium*:

> "Durability of housing will manifest itself in various ways in different cities. For
> example, in Nairobi a non-durable house may be made of a patchwork of tin,
> cardboard, plastic sheets; while in Moscow it could be a dilapidated
> condominium" (2003).

In this report, the judgments of durability of housing units are based on observations derived from the accounts of the housing units in literature. Similar to water and sanitation access, UN-HABITAT provides a list of factors for judging durability, which are listed in Table 2.3. Yet this framework is designed to evaluate a single house, and many of the criteria listed in Table 2.3 cannot be usefully applied to a general characterization of the housing units of a settlement. It is clear, however, that the purpose of these criteria is to evaluate a structure's permanency, physical state, and environmental security. Therefore, Table 2.4 below uses the criteria of Table 2.3 to create a more general framework through which this report evaluates the characteristics of the average housing unit of a settlement.

Table 2.3: Characteristics of Durable Housing Units

Structure Characteristic
Permanency of Structure
Permanent building material for the walls, roof, and floor
Compliance of building codes
The dwelling is not in a dilapidated state
The dwelling is no in need of major repair
Location of house (hazardous)
The dwelling is not located on or near toxic waste
The dwelling is not located in a flood plain
The dwelling is not located on a steep slope
The dwelling is not located in a dangerous right of way

Table 2.4: Adapted Characteristics of Durable Housing Units

Structure Type	Permanency	Physical State	Environmental Security

Neighborhood Unit

The quality of a neighborhood unit is an extremely difficult concept to quantify. So much of a neighborhood's quality is contained in the ephemeral idea of community—neighborliness, social unity and cohesion, sense of belonging. Judging these concepts is largely superficial without a designed survey or experiment within the community specifically aimed at understanding the social capital of a neighborhood. Moving forward however, there are some tangible qualities of the neighborhood unit one can discuss. Is the area overcrowded? Is there

open space in the neighborhood? What is the condition of the public space? In general, what is the health of the community? What is the visual character of the neighborhood? Is there a significant amount of solid waste exposed? Intrinsically intertwined with observations about physical infrastructure, many aspects of the neighborhood unit, within this report, are discussed only briefly and in accordance with how these specific factors affect living conditions.

One aspect of the neighborhood unit that this report can discuss slightly more in depth, however, is overcrowding. UN-HABITAT provides some quantifiable numbers to judge overcrowding and outlines what is considered acceptable, sufficient living area at the dwelling unit scale: "A dwelling unit is considered to provide a sufficient living area for the household members if there are fewer than three people per habitable room" ("Slums of the World," 2003). A habitable room is considered to be a minimum of four square meters ("Slums of the World," 2003). Overcrowding is typically discussed at the household/dwelling unit scale because that is where the effects are felt most acutely. This type of measure, however, is incongruent with the data available for Kibera and Sultanbeyli because housing counts and population censuses are typically innacurate. This presesnts a significant challenge to determining if a community is "overcrowded," as many scholars feel that overcrowding cannot be quantified through population density or intensity. Rather than attempt to provide an arbitrary number for what "overcrowded" is, this report simply provides a comparative analysis of the population densities in Kibera and Sultanbeyli.

Concluding Comments

The validity and successfulness of this study is intrinsically tied to a valid and successful base of knowledge of the key concepts associated with informal development. In accounting this literature review, this report provides a window into the information uncovered that feeds the logic behind all of the important operational definitions and explanations of key concepts discussed throughout the remainder of the study. In particular, this chapters discussion of the concept of informality's origin in Keith Hart's work provides important context as to why some settlements are labeled as informal. Furthermore, outlining and distinguishing informal settlements and slums is an important concept moving forward with any discussion of different settlement typologies and varying living conditions within informal settlements. Through

providing operational definition of these concepts, through providing quantifiable metrics with which to gauge associated concepts such as the living conditions diamond, this literature review serves an extremely important function of generating and fostering shared understanding of the concepts explored and the subsequent findings within this study.

CHAPTER 3 - Methodology

Introduction to the Research

This study intends to provide insight into the growth and proliferation of informal development. It seeks to diagram the conditions that lead to informal development as well as the associated forces and factors working to shape living conditions within this development. According to these goals, this report utilizes a case study of two distinctly different informal settlements, Kibera and Sultanbeyli, to identify the key differences and similarities in the development of the settlements and how this development manifests, as judged by living conditions. However, indicating that a case study is the appropriate study type for this report is inadequate. Rather, it is important to enumerate a research strategy and methodology to provide insight into the research process and in doing so, outline the credibility of the research contained within the report.

As summarized by Catherine Hakim in *Research Design: Successful designs for social and economic research*, research is only fruitful when studies chosen for a study, project, or research program are appropriate to the questions needing addressed (2000). Accordingly, this chapter serves many functions. It provides discussion of the philosophical assumptions and rationales in this report's research. It provides discussion of the motivations behind the research of this report, and the system of inquiry used to guide this research. In addition to these "high-level" discussions, this chapter defines the research process used in this report. It builds a general framework for the structure of this report's research design and explains the data sources, resource practices, and takes into account the unique challenges of investigating informal settlements and informal development. In this way this chapter provides insight into the motivations behind, as well as the research process itself, in order to prove that the research contained within this report, is in fact fruitful and appropriately conducted.

Defining Research and the Research Process

How one defines research within the context of the report heavily influences the research design and methodology of a report. Among the most important initial questions one must consider is the aims of his or her research. In social science disciplines there are two major research classifications that are distinguished according to these aims, theoretical research and policy research. Theoretical research is concerned with causal processes and explanations, abstract variables and theoretical constructs—it is about developing knowledge for better understanding of a given subject (Hakim, 2000). Conversely, policy research is focused on actionable factors and developing knowledge for action (Hakim, 2000). While these distinctions are more of a generalized framework and there is plenty of overlap between theoretical and policy research, it is important to note that this report is principally concerned with theoretical research, or research that intends to provide a better understanding of informal settlements and informal development.

Additionally, there are differing schools of thought concerning how to envision the research process, conceptually. The first, and arguably most prevalent, conceptualization of research is that of excavation: the researcher is digging, excavating "dirt" in an attempt to uncover information or a conclusion. Another common analogy for envisioning research is that of painting on canvas: the researcher is using his or her research to create or produce some kind of conclusion. This report, however, submits that there is in fact a third conceptualization of the research process that more accurately portrays exploratory research. A more accurate conceptualization of exploratory research projects is an analogy to exploring uncharted territory. A researcher begins with a definite goal in mind, and a tentative plan for achieving that goal, much like an explorer readying his or herself for a trip. In both cases, neither the researcher nor the explorer is certain what the journey holds or what path he or she must take. Just as changes in terrain and circumstance dictate an explorer's trek, the information uncovered in an exploratory research process guides the focuses and direction of further research toward an ultimate goal. The research process of this report is conceptually akin to this exploration analogy. Theoretical in nature, the goal of the research of this report is developing a better understanding of informal settlements and informal development, but the focuses and direction of this research remained a very dynamic concept during the research process.

Research Design

As summarized above, the key to successful research design hinges on marrying the goals of research with the available information and appropriate study type. Gauging the appropriateness of a research strategy begins by weighing the key features, strengths, and limitations of study types with respect to the research one intends to conduct. Given the theoretical, and exploratory nature of investigating informal settlements and informal development, this report utilizes case study. Case studies are flexible and multipurpose (Hakim, 2000). They allow for a number of different systems of inquiry and differing levels of intellectual rigor—case studies at minimum provide informative, detailed descriptions of an event or social phenomenon, but can also form the basis of much more rigorous empirical studies (Hakim, 2000). For this reason, case study is often the appropriate research study type when holistic, in-depth investigation into understanding and diagramming complex social phenomena, such as informal settlements and informal development, is necessary (Feagin, Orum, & Sjoberg, 1991; Yin, 2003). In addition to flexibility, case study is an ideal system of inquiry for this report because of a strong emphasis on contextual relationships and alternative sources of evidence. As defined by Robert Yin in *Case Study Research: Design and methods,* case study is an investigation into contemporary phenomenon within real-life context when the boundaries between the phenomenon and context are not clearly evident. Furthermore, as a system of inquiry, the case study copes with the unique situation in which variables of interest play a significantly larger role than data points, and as such, relies on triangulated multiple sources of evidence (2003). The case study's focus on context and variables of interest allows this report to credibly examine the complex and intertwined relationships of a number of factors within specific informal settlements through accounts and periodical review, rather than other study types that rely on quantifiable empirical data. While there are weaknesses in all types of research, case study is prone to bias, selectivity, and reflexivity (Tellis, 1997). Case study overcomes these weaknesses, however, through the use of triangulation. Denzin identifies four types of triangulation: data triangulation, investigator triangulation, theory triangulation, and methodological triangulation (1984). While achieved through different means, all triangulation strategies attempt to counteract the inherent human error in case study by corroborating conclusions in data, different investigators, or replicable procedures (Denzin, 1984). This report,

through the use of Robert Yin's defined case study protocol, uses methodological triangulation. The generalized process is as follows:

1. Design the case study protocol:
    a. Determine the required skills
    b. Develop and review the protocol
2. Conduct the case study:
    a. Prepare for data collection
    b. Conduct literature/periodical review
3. Analyze case study evidence
4. Develop conclusions, recommendations, and implications based on the evidence

Case Study Protocol

Overview

Robert Yin identifies three specific types of case study in *Case Study Research: Design and methods*—exploratory, explanatory, and descriptive (2003). These case study types are not mutually exclusive, but have different goals in mind. For example, exploratory case studies are often considered preludes to social research. Exploratory case studies often constitute the efforts to understand social phenomena that provide the platform for further research. Explanatory case studies, however, focus on causal investigations, or attempts to understand why certain social phenomena occur (Yin, 2003). This report has a hybrid approach in case study design, utilizing both exploratory and explanatory case study to investigate informal settlements and informal development. Beginning with a general knowledge and concern about urbanizing trends and how this urbanization affects communities and the built environment in the developing world, initial research associated with this report focused on slums, equating poor living conditions with informal settlements. After thorough investigation into slum upgrading, it became readily apparent that distinctly different community typologies exist within the umbrella term, "informal settlements." Furthermore, though the body of literature for slum upgrading is extensive, causal investigations into the processes at work that affects living conditions in a settlement remains largely unexplored and inconclusive. This revelation indicates that case study of informal

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settlements can provide significant insight into the processes shaping global informal development to planners and social scientists. Furthermore, enhanced knowledge of these processes will better equip planners and social scientists to develop and refine strategies for addressing and working with the forecasted growth in informal development. This report utilizes a multiple instance case study of two informal settlements: Kibera, a settlement within Nairobi, and Sultanbeyli, a settlement just outside Istanbul. Each case study outlines the unique historical origins of each community and provides a characterization of the living conditions within the settlement today. This case study identifies key similarities and differences in the settlements in order to provide insight into the growth and proliferation of informal development, as well as the associated forces and factors working to shape living conditions within this development. Through identifying these similarities and differences, this case study will provide initial indications of how informal development originates, and what factors determine living conditions within unregulated, informal development. Furthermore, examining the origins of informal development and the determinates of living conditions allows this report to make initial suggestions as to how planners and social scientists can proactively address new informal development growth, as well as diagram how planners and social scientists can effectively intervene in informal development in order to combat slum living conditions.

Research Procedures

The research procedures involved in developing this case study are specifically designed to maximize access to quality information and minimize the impact of the challenges faced in investigating informal settlements and informal development remotely. In light of geographic limitations, the bulk of the research produced through this case study is derived from literature and periodical review. Through the use of scholarly journals, and local periodicals, this report compiles a large amount of information about each case study instance for careful vetting. This information serves to provide historical context and characterizations of living conditions in both case study instances, which is then compared and contrasted for initial findings. Where literature review is lacking, additional sources are used, most notably invaluable insight from Kelsey Smith, a Kalamazoo University student who spent six months studying abroad and working in the Kibera decanting site.

Case Study Questions

   The research conducted in this case study is guided by a substantial list of questions. Initial literature review for understanding informal settlements began with the following list of questions:

1) Is all informal development the same?
 a. How does development differ/manifest?
2) What are informal settlements?
 a. What do they denote?
 b. What are their unifying features?
 c. Are they a typology?
3) What is a slum?
4) What is the relationship between slums and informal settlements?
5) How does one define living conditions?
 a. How do you gauge individual aspects of living conditions?

Establishing this knowledge, discussed in the previous literature review section, allows for much more pointed inquiry with respect to this case study. If informal development is forecasted to increase significantly in the next generation, how prepared are planners and social scientists to address the challenges associated with them? Can planners and social scientists explain why living conditions vary across informal settlements? How can planners and social scientists intervene in informal development to combat slum living conditions? In synthesizing these questions, this report attempts to answer: what conditions contribute to the growth of informal settlements, what is the relationship between informal development and living conditions, and what implications does this have for planners and social scientists?

CHAPTER 4 - Kibera

"One glimpse is enough. You have discovered the famous misery of the Third World. A sea of homes made from earth and sticks rising from primeval mud-puddle streets. Massive numbers of people live here: somewhere between 500,000 and a million souls. Many have lived here for decades, but half the residents are under the age of 16. All, old and young, new arrivals and long-term residents, live without running water, sewers, sanitation, or toilet" (Neuwirth, 2006).

Figure 4.1: Kibera

(*Kibera Street,* 2009)

Kibera is a roughly 250 hectares (4km^2) settlement seven kilometers southwest of Nairobi. Kibera is made up of 10 official villages, each with a village Elder (see Figure 4.2). Conservative estimates state that Kibera houses approximately one third of Nairobi's population, 800,000 peoples, at an estimated population density of about 2,000 persons per hectare (UN Office for the Coordination of Humanitarian Affairs, 2006). Kibera is informal—the land it occupies is government owned and the majority of the population rents from landlords who have permission from the local chieftain to build temporary mud and corrugated steel huts. At any point, however, the Government of Kenya can evict the residents of Kibera and reclaim the land—it is the quintessential squatter community and slum. The conditions in Kibera may represent the most accurate embodiment of slum living conditions as described by the United Nations (2006).

History

One must consider the larger contexts when reviewing the history of Kibera—the history of Nairobi, Kenya, and Africa are equally important in developing an accurate historical context for the informal settlement. This is a bold statement, because in saying so, this report risks calling the scope of its own research into question. Such a broad historical inquiry encompasses a number of key research fields and foci that, within this report, go fairly unexplored. For example, this research is not intended to discuss post-colonial or sub-altern theory in depth, and as such, avoids digressing into deep detail. It is important, however, to recognize that colonial occupation played a key role in shaping Africa socially, politically, and economically.

Similarly, without delving deeply into rural-urban migration theory, it is important to note that cities have historically attracted a large influx of populations. The Harris-Todaro Model, largely considered the authority on rural-urban migration despite recent criticism, provides the most widely accepted theoretical framework for examining rural-urban migration (Riadh, 1998). There are very specific aspects of this framework that scholars question, but one key assumption has been confirmed by expanded investigation and applied studies: relative wages and the perceived probability of finding a job have historically been important determinants of a decision to move (Riadh, 1998). In short, cities as perceived by the masses, have historically appeared to have more jobs and higher wages than rural areas, which in turns

motivates relocation. Yet, applying rural-urban migration models to Nairobi, as with many African cities, is difficult. Nairobi began life under British control. More to the point, "Nairobi didn't exist before the British came. It was a small Masai settlement at a confluence of several small rivers" (Neuwirth, 2006). Nairobi was meant to be the staging point for the British ambition of establishing a rail system across East Africa, beginning in 1899 (Neuwirth, 2006). This railroad construction and the resulting labor need it generated combined with traditional rural-urban migration processes inspired many rural Africans to relocate to Nairobi in search of better paying work and higher standards of living.

Under British control, however, Africans coming into Nairobi were tightly regulated and segregated: those Africans that had permission to come to the capital as laborers were housed in temporary, single room barracks and could not bring their families (Neuwirth, 2006). The many that came without permission were left to fend for themselves—they began building large thatch hut neighborhoods outside the city limits (Neuwirth, 2006). The British Colonial Authority treated the thatch hut neighborhoods with ambivalence—some were tolerated, others were forcibly dismantled (though they often reappeared). These unique conditions laid the foundations for informal settlements in Nairobi that have since been cemented into the cultural landscape despite their inherently temporary nature. This point is no better illustrated than by the fact that informal settlements in Nairobi continued to burgeon following Kenya's independence in 1964 (Neuwirth, 2006).

But the story of Kibera is even more complex. The land Kibera occupies was initially classified as unused bush outside the city limits of Nairobi (Parsons 1997; Neuwirth 2006). This land was granted to the armed forces by the King of England for use as a firing range in 1904, and one of the units that was trained there was the King's African Rifles, commonly referred to as the KAR (Parsons 1997; Neuwirth 2006). As this army corps of predominantly Sudanese Africans aged, they petitioned for, and were granted permission via military occupancy permits, to settle on the outskirts of the training area—291 retirees were granted this right in 1912 (Parsons 1997, Neuwirth 2006). These retirees remained behind after the KAR were redeployed and held the land in customary tenure[11] until 1933 when they were declared Tenants of the

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[11] Refers to land which is owned by indigenous communities and administered in accordance with their customs.

Crown (The Centre on Housing Rights & Evictions, 2006). Under this new land administration system, the structure of Kibera as a community began to shift. As Nairobi continued to develop as a city, Kibera's close proximity to the city center and industrial areas made the settlement very attractive to those immigrating to Nairobi for work. Consequently, by the time the Nubian residents were allocated 500 acres in northwest Kibera in 1950, they were already leasing land to people from other tribes seeking housing after immigrating (The Centre on Housing Rights & Evictions, 2006). During this time Kibera remained predominantly Nubian, though the ethnic composition was shifting. Bernard Nzau, Kibera Resident, characterized the area during this time period as rural, and clean. He indicated that people took joy in tribal differences (Neuwirth, 2006). These conditions however, changed dramatically beginning in 1969. In 1969, Tom Mboya, an influential Luo[12] cabinet member was assassinated. Fearing persecution and violence, many Luos fled the conflict and settled in Kibera which was perceived safe compared to neighboring communities (The Centre on Housing Rights & Evictions, 2006). Almost overnight, Kibera ballooned to a settlement with a gigantic population and a distinct ethnic divide between the Nubian "landlord" minority, and the new ethnic majority of Luo and other tribes. Without formal planning, government recognition and representation, adequate services, and secure tenure, the Kibera settlement quickly grew beyond the carrying capacity of the land. The majority of the settlement's population now lives in appalling conditions and violent conflicts between Nubians and non-Nubians erupt often in land and political disputes (Tension Runs High Over Nairobi Eviction Threat, 2009).

The living conditions of Kibera today have garnered a lot of attention from outside parties over the last three decades. As a result, Kibera's recent history is inundated with a number of slum-upgrading ventures of mixed result. The most recent and comprehensive undertaking, the Kenya Slum Upgrading Project (KENSUP), uses Kibera's Soweto neighborhood as a pilot project (UN-HABITAT, 2000). This nationwide project is a "key core poverty Programme aimed at addressing the challenge of housing problems affecting the majority of the urban population who live in slums and informal settlements" (Ministry of Housing, 2010). It is a robust project with phased implementation, scheduled for completion in 2020 in accordance with the United Nation's Millennium Development Goals to address slums

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[12] Luo is the third largest ethnic group within Kenya behind the Kikuyu and Luhya.

globally. With respect to Kibera's unique situation, the KENSUP program created a decanting area for relocating families (in phases) as sections of the existing settlement are upgraded. The decanting area is composed of a 17 block, five-story high collection of 600 three-room units (Ministry of Housing, 2010). In late 2009, the first major relocation of Kibera residents into the decanting area took place (Kenyan premier leads Nairobi slum dwellers in relocation exercise, 2009).

Figure 4.2: Villages of Kibera[13]

(Maps of Kibera, n.d.)
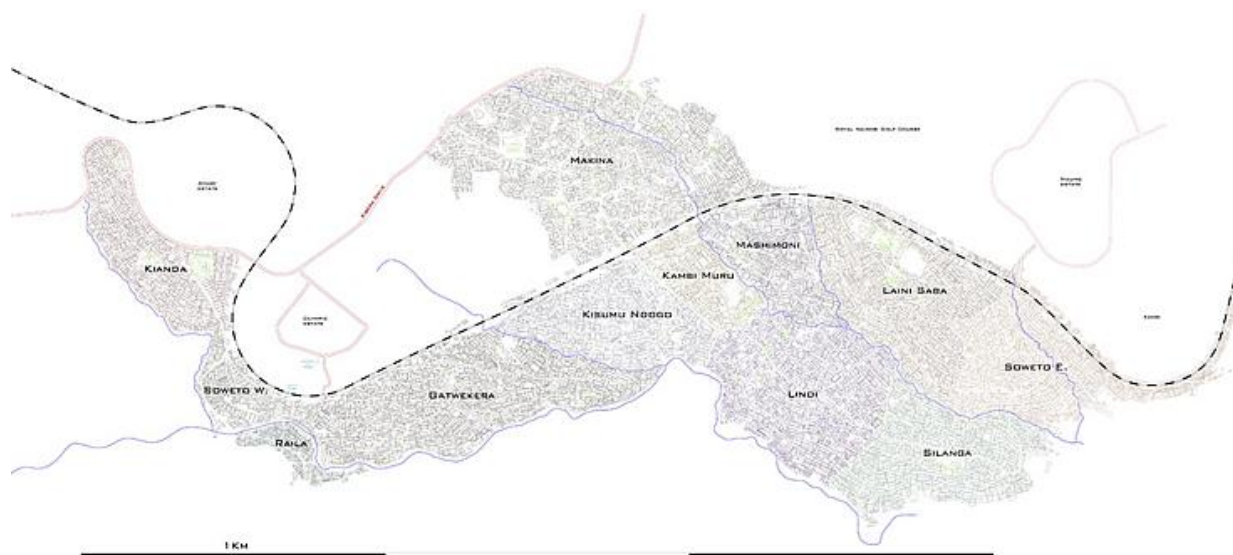
Living Conditions

Before delving into the living conditions of Kibera, a caveat: the KENSUP activity in Kibera, most of which occurrring after the publication of Robert Neuwirth's *Shadow Cities*, creates an interesting conundrum. With the implementation of this phased upgrading plan, *two*

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[13] Figure 4.2 is a map of Kibera's villages generated by the Carolina for Kibera foundation, a 501(c) (3) affiliated with the University of North Carolina and the Center for Global Initiatives. While a low quality image, this is the only map of Kibera's villages available as of this report's composition.

different Kibera's emerge, but data regarding the progress of KENSUP in Kibera is fleeting. This duality has significance in considering Kibera's living conditions, but it is difficult to gauge the reach and impact of this significance. Without formal research on KENSUP's reach and impact on Kibera's population, estimations are integral to understanding the scope of the KENSUP project's progress. Research indicates that 1,800 families relocated to the Kibera decanting site in the initial wave (1,800 Kibera Families to Move to Modern Houses, 2009). Considering the average family size in Kibera of 7 persons, a generous estimation is that the KENSUP plan to date has relocated 12,600 persons to the decanting site. Based on the observation of Kelsey Smith, a University of Kalamazoo student who spent 6 months studying abroad and researching in Kibera, there are an estimated 2,000 people living in the decanting site as of February 2010 (Smith, 2010). Using these two estimations, KENSUP has relocated anywhere between 0.25% - 1.5% of Kibera's population to date[14]. As such, the direct effect of KENSUP as it pertains to the entirety of Kibera's population is quite narrow. Furthermore, according to Kelsey Smith's observations in Kibera, as of February 2010, upgrading to the relocated familiies' neighborhood, projected to take three years, had not yet begun(Smith, 2010). Other local sources also provide information to suggest the pace of the project is an issue, stating that at the current pace it will take 1,178 years to complete (Inter Press Service, 2009). Accordingly, this report concludes that the general characterization of Kibera's living conditions is not significantly altered by the KENSUP progress to date, but maintains that it must be carefully monitored for future implications.

Infrastructure

Services

Access to information regarding informal settlements, is difficult to characterize. Often times, there is not much information available, and when it is; the information is far from reliable. Kibera, on the other hand, is a fairly well studied informal settlement. Robert Neuwirth

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[14] Estimated site population (2000) / Kibera's estimated population (800,000) x 100 = 0.25%. Families relocated (1,800) x Average Family size (7) / Kibera's estimated population (800,000) x 100 = 1.5%.

chose Kibera as his African example of "squatters," in his book *Shadow Cities* (2006). The

University of North Carolina established Carolina for Kibera (see Figure 4.2 and footnote 16) in

2001, a nongovernmental organization that combats "abject poverty and helps prevent violence

through community-based development in the Kibera slum of Nairobi, Kenya and beyond"

(University of North Carolina at Chapel Hill, 2001). Perhaps even more impressive, Scottish

filmmaker Jamie Doran helped establish an offshoot of the world-renowned Celtic Football Club

in Kibera with philanthropic aims within Kibera:

> "Since its threadbare beginnings, the club has received new strips, boots, shin pads and
> goalkeeping gloves thanks to Jim Mullins, from the salmon supplier Lighthouse
> Caledonia, who sent the equipment after being told about the club. With the proceeds
> from the matches played so far, Ouma and Njira [club founders] have started a chicken
> farm, with all profits diverted to the needy" (Grahame, 2009).

In the face of this global visibility, the challenge in gathering information about Kibera without

firsthand observation is to carefully consider and vet the information available to determine

which pieces of information provide the most accurate picture of Kibera. This is a delicate

process as the majority of information regarding Kibera comes from observations made by

external individuals that may or may not be motivated by specific agendas. These agendas may

or may not have bearing on the accuracy on these individuals' observations and the conclusions

drawn. Charles Onyango-Obbo of Kenya's *The Nation* summarizes this phenomenon best.

There are two basic views adopted by non-slum dwellers who visit Nairobi's slums: the

"romantic who is in love with the 'creative drive' of the slums surrounding Nairobi," and the

"cynic and hardened urbanite who thinks it is patronizing to feel pity" for the residents (2009).

Though Onyango-Obbo's endorsement of the oft-discussed "slums as a transitional

phenomenon" argument where people use slums as a necessary stepping-stone to middle-class

security and comfort indicates a modicum of inherent cynical bias, Onyango-Obbo's

characterization of how non-slum dwellers perceive and react to slums is still helpful in

discovering and weighing ulterior motivations in publications. While a number of sources were

consulted, this section's understanding of the infrastructure and services in Kibera is based on

observations made in *Shadow Cities* (Neuwirth 2006), assorted publications by the United

Nations, the Water and Sanitation Programme, and local press releases and articles. Considering the accecptable urban living conditions criteria discussed in Chapter 2 in conjunction with the observations of the listed publications, this report develops a generalized idea of the living conditions within Kibera and further, initial judgments of said living conditions.

Though the details vary by account, in general discussion, the infrastructure of Kibera is almost universally maligned. Accordingly, the indication is that most acceptable urban conditions are not met: the built environment, while functional, is far from aesthetically pleasing, public facilities are few and far between and access to basic, essential services is appalling (Alder 1995; Kiplagat, 2009; Michela 2008; United Nations 2009). Delving deeper, a number of comments pulled from the literature provide key insights about Kibera's infrastructure. Firstly, in reference to access to water services:

1) "Although water mains exist all around Kibera, the government has never extended water service into the mud hut city" (Neuwirth 2006).

This passage of Robert Neuwirth's *Shadow Cities* highlights a harsh reality in Kibera. For whatever reason, economic, social, or political, the government had not, as of 2006, extended water service into Kibera though the infrastructure to do so existed. It is important to note the distinction between water service and water availability. What Robert Neuwirth is referring to when he says "water service," is a formal, dwelling-by-dwelling, end-user relationship between Kibera residents and the Nairobi Water and Sewerage Company—a relationship with direct, metered connections to individual houses or plots. While the statement seems to indicate otherwise, there is municipal water piped to Kibera. In actuality, there are approximately 25 kilometers of piped network in Kibera, though much of that network gets little or no water (Brocklehurst, 2005). This erratic service is an over-arching issue for Nairobi, as well: "Only about 187,000 or 42 percent of the total households in Nairobi have legal water connections. Nearly all others, largely poor households, obtain water from kiosks, water delivery services and illegal connections" (Brocklehurst, 2005). A 2002 report on the state of Nairobi's water services goes on to indicate that "of those that are presently served by the utility, 40 percent do not receive a 24-hour supply. Some 30 percent receive water once in two days while 10 percent receive water only once a week. Unaccounted-for-water is over 50 percent of the total volume of

treated water produced" (PPIAF, 2002). In Kibera, this overarching shortage is intensified by the limited capacity of the pumping station on the main line that feeds Kibera, and the tendency to divert water to high-income areas where revenue collection is greater and the political influence is higher (Brocklehurst, 2005). Ultimately, it is clear that for the majority of Kibera's 800,000 residents, a direct piped water connection to the house or plot is not possible. In point of fact:

2) "4% of residents [in Kibera] have-in house water connections, 15% rely on yard taps and 68% rely on water kiosks managed by private individuals, NGO's or CBO's" (Umande Trust, Centre on Housing Rights and Evictions, Hakijamii Trust, 2007).

The kiosk system is the main mode of access to water services in Kibera. Estimates from the Water and Sanitation Program state that 40% of the water supplied to Kibera is lost through leakage, and 50% is sold at kiosks (Brocklehurst, 2005). As the main mode of access to water, and considering the high visibility of access to basic services in determining a settlement's quality, the kiosk system in Kibera has garnered a significant amount of attention from the international community over the last two decades. In practice, the water kiosks of Kibera are the embodiment of a demand responsive approach to community water supply where the users of the service are the initiators, planners, implementers, managers, and owners of the service (The World Bank Water and Sanitation Program, 1997). In this capacity water kiosks have served an extremely important function within Kibera in the absence of widespread direct, piped connections to individual homes or plots. Unfortunately, the kiosk system is largely entrepreneurial and unregulated. A 2005 World Bank Water and Sanitation Program Field Note identified 650 water kiosks in operation in Kibera—private entrepreneurs run 98% of these kiosks while Community Based Organizations (CBO's) and Non-Governmental Organizations (NGO's) run the remaining 2% (Brocklehurst, 2005). This lack of regulation leads to a number of issues in cost, cleanliness, and equity in Kibera's water supply system. A key component of the UN-HABITAT's acceptable urban conditions with respect to water access is that the minimum sufficient quantity of water, 20/liters/person/day, is available to household members without being subject to extreme effort (less than one hour a day), especially to women and

children ("Slums of the World," 2003). Several passages from the literature shed light on this aspect of water access in Kibera:

3) "Depending on where you live, the kiosk may be right outside your door or as much as a kilometer away" (Neuwirth, 2006).

4) "Carrying water, by and large, is women's work … Even the young are put to the task. I have seen little girls who are barely taller than the 2-foot-high jerry cans dragging them home after buying water" (Neuwirth, 2006).

Determining if a household is subjected to extreme effort in accessing water is best observed on a case-by-case basis. These passages, however, provide valuable insight on the average household's effort in accessing water through kiosks in Kibera. Firstly, the amount of effort a household must expend in traveling to the kiosk varies, and in many cases the distance is extreme. One 2007 report compiled by residents of Kibera suggests that Neuwirth's characterization may be extreme, stating that the average distance from household to the nearest water kiosk is 40 meters (The Right to Water and Sanitation in Kibera, Nairobi, Kenya, 2007). However, considering that a large number of Kibera's water kiosks' connections to the water mains are established and facilitated through bribing local authorities, equitable placement is far from guaranteed (Neuwirth, 2006). Similarly, it is important to recognize the unspoken potential issues in this statement. Water may or may not be available at the nearest kiosk. In fact, the World Bank's Water and Sanitation Program identified that the average poor household in Kenya spends 45 minutes per day collecting water (Brocklehurst, 2005). Those with private connections spend 5 minutes daily, those with yard taps spend 15 minutes daily, and users who rely on kiosks spend upwards of 55 minutes daily collecting water (Brocklehurst, 2005). In addition, it is clear that the burden of collecting water for the household falls to the women and children of the household—the two vulnerable demographic groups singled out by the UN-HABITAT's acceptable urban conditions. Furthermore, through these observations, this report determines that with respect to necessary effort and primary laborers, the current system for collecting water in Kibera does not meet the acceptable urban conditions as outlined by UN-HABITAT ("Slums of the World," 2003).

UN-HABITAT's acceptable urban conditions also discuss issues of cost in water access, stating that a household must have access to the minimum sufficient amount of water for less than 10% of the total household income ("Slums of the World," 2003). The average price of each jerry can varies by conditions and supply—on average each jerry can is between Ksh2 and Ksh3 (Brocklehurst, 2005). Given that the average household in Kibera makes an estimated Ksh45 per day, the average household size is 7, and the minimum sufficient amount of water is 20 liters/person/day (or one jerry can per person), the average household would require at least 7 jerry cans of water for no more than Ksh4.5 in order to meet this criteria. These raises important questions—is water too expensive, or are wages in Kibera abnormally low? The simple answer is both. While low household incomes exacerbate affordable water accessibility, research indicates that Kibera's water kiosks often cost the residents significantly more than the tariff's associated with a direct connection from the Nairobi Water and Sewerage Company. At Ksh2 per jerry can, roughly Ksh100 per m3, Kibera's residents pay eight times the lowest block of tariffs for a domestic connection and four times the average tariff in Kenya (Brocklehurst, 2005). Yet this is only the beginning of the cost issues associated with Kibera's water kiosks:

5) "During water shortages, the prices become even higher, soaring to Ksh5 or even as much as Ksh10 for a 20-liter jerry can (the equivalent of Ksh500 or US$6.60 per m3). The unit cost of water in Kibera can thus rise above the average price of water at private connections in European countries" (Brocklehurst, 2005).

The rates used by Kibera's water kiosks, driven by market factors, continually fluctuate, and directly impact the average Kiberan household's ability to access water. Unregulated, preference is shown to those willing to pay at a premium for water during a shortage. Neuwirth even notes that further amenity is available to those willing to pay for it: "When water is scarce—a common occurrence in Nairobi, where even rich neighborhoods sometimes go weeks without any water—long lines form, and the price goes up. And when lines are really long, there's a two tiered system: people who want water without waiting can get it with express service—if they pay for it" (Neuwirth, 2006). Ultimately, in regards to affordability, Kibera's water access is far from the acceptable urban conditions outlined by UN-HABITAT ("Slums of the World," 2003).

In addition to these issues limiting access to water service in Kibera, water quality is a serious concern. Theoretically, though passing through a third party, Kibera receives treated water from the Nairobi Water and Sewerage Company that is potable. In its journey from the main lines of Nairobi's water network to the end-user in Kibera, issues arise:

6) "Kiosk operators lay pipes along existing channels including open sewers full of solid waste and contaminated water. This allows contamination of water during its transportation from the utility network to the kiosk. Many use low quality plastic pipes to reduce costs, as metal pipes are much more expensive and could be stolen. Plastic pipes have the added advantage of being flexible enough to follow the winding and irregular paths found in most of Kibera. " (Brocklehurst, 2005).

Unfortunately, theft of pipes and infrastructure elements is not uncommon in Kibera. One major concerted effort in early 2004 by the World Bank and Nairobi City Council fell disappointingly short of its goal to pipe municipal water into Kibera in part because of this tendency by Kibera's residents. The plan went to contract and a large number of pipes were installed within Kibera, but infighting erupted between the contractors and the City Council and the project was mired in inactivity. The project was ultimately doomed when some of the residents dug up the inactive pipes and sold them for scrap (Neuwirth, 2006). Opting for cheaper plastic pipes in running water to their kiosks, Kibera's kiosk operators lower their overhead investment and minimize their economic risk, but compromise the quality of their product (see Figure 4.3).

Figure 4.3: Informal Water Pipe Network Kibera

(Water Source Burst Pipe, n.d.)

In 2003, the World Bank's Water and Sanitation Program began an effort to regularize the water kiosk system in Kibera. They held regular meetings with kiosk owners and worked diligently to build the capacity of the kiosk owners, helping to band them together, increase self-regulation, and craft strong collective bargaining needs to take to the Nairobi Water and Sewerage Company (Brocklehurst, 2005). Through this collective effort, the kiosk owners and the Nairobi Water and Sewerage Company have made strides in regularizing illegal connections and improving the distribution network to the kiosks (Brocklehurst, 2005). In addition, pilot projects of similar aims from NGO's like the Kenya Water for Health Organisation exist throughout the settlement. These efforts, however, are a slow moving process. As of 2010, there is not any documented evidence to suggest that any significant change to the overall state of water access within Kibera has occurred. As water kiosks serve more than 5 households, only 19% of the population enjoys an acceptable water access mode through piped connections to the house or yard taps (public stand serving no more than 5 households). Thus, the typical water

access mode in a general characterization of Kibera, water kiosks, does not mirror the characteristics of an acceptable water access.

As with water services, access to sanitation is an overarching issue in Nairobi: "According to the United Nations World Water Development Report, 2006, 65 per cent of people living in Kenya's urban areas have no access to basic sanitation, while 40 per cent of rural dwellers go without sanitation facilities" (Bongi, 2005). Given that the Nairobi City Council does not provide sanitation services to Kibera, dealing with wastes in Kibera is a conundrum of epic proportions (Bongi, 2005). This small geographic area, stressed by a large population, inadequate water services, and virtually no physical infrastructure struggles daily, at all scales, to manage human, solid, and water waste. This struggle is no more visible than in the average Kiberan's day-to-day effort to manage his or her biological waste.

The World Bank's Water and Sanitation Programme's *Understanding Small Scale Providers of Sanitation Services: A Case Study of Kibera* (2005) details an in-depth study into the sanitation services available in Kibera with a specific focus on biological waste. This report outlines the six models of latrines identified in Kibera, public and private, according to a number of factors—these models are summarized in Table 4.1. The 493 latrines identified in Kibera have differing compositions, sources of funding, fee structures, and quality (2005). From these findings, valuable conclusions about the state of toilet and latrine facilities emerge. Firstly, of the 493 latrines identified in Kibera, The Water and Sanitation Programme classified 78% of the public latrines as "poor," and 22% as "good." Comparatively, the same report classified 83% of private latrines as "fair," 17% good, and noted that there are an unquantifiable number of very poor private latrines as well. In terms of the overall state of Kibera's latrines, public and private, 22% are "poor," 60% are "fair," 18% are good, and there are a number of unquantifiable, very poor latrines. An overwhelming number of these latrines (roughly 98%) are externally funded through CBO's, NGO's, and development agencies. The report suggests a number of reasons for why so many of the latrines are externally funded and managed, the most likely being the lack of incentive for private investment in the face of insecure tenure (Bongi, 2005). Ultimately, these statistics derived from The Water and Sanitation Programme's findings indicate that, of the latrine facilities available, most (78%) are in good-to-fair condition. How this translates to the residents of Kibera in terms of availability and accessibility, however, is another matter. Estimates on latrine and toilet facilities as applied to the population of Kibera vary:

1) "Kibera's 800,000 residents must share 600 toilets, meaning that on average one toilet serves 1,300 people" (UN Office for the Coordination of Humanitarian Affairs, 2006).

2) "One latrine is often used by several households or even several plots (a 'plot' refers to a group of rooms either belonging to the same owner or placed side by side), which means up to 150 may be sharing a single latrine" (Bongi, 2005).

3) "There is one pit latrine for every fifty to five hundred people" (Mercy & Elizabeth, Sanitation and Hygiene in Kibera Slums, Nairobi, 2008).

In actuality, it is likely that each of these estimations of the number of toilets or latrines to people holds merit considering the general vagueness of the definition of "latrine[15]" and scarcity of reliable data regarding Kibera. Regardless, according to UN-HABITAT, acceptable access to improved sanitation is characterized by "an excreta disposal system, either in the form of a private toilet or a public toilet shared with a reasonable number of people" ("Slums of the World," 2003). Quotes 1, 2, and 3 all show a large disparity in the number of available facilities for Kibera's extreme population, well beyond what is considered acceptable urban conditions. This disparity also leads to maintenance issues that may further reduce the number of accessible latrines in Kibera. As Table 4.1 shows, nearly all the latrines in Kibera are pit latrines— reference the "Excreta Disposal Method" and "Technology" columns—that require emptying every ten months on average (Bongi, 2005). Sludge removal is a key activity in pit latrine maintenance as full latrines are unusable and risk overflowing, particularly in the rainy season (Bongi, 2005). In the absence of municipal sanitation services, latrine emptying relies on small-scale providers of sanitation services. Figure 4.4, based on data from *Understanding Small Scale*

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[15] Most definitions of "latrine" indicate that it may refer to a group of facilities, such as a toilet block, as well as an individual unit. There was no operational definition provided in The Water and Sanitation Programme's report so it is unclear which, if not both, type of latrine this report refers to.

Table 4.1: Latrine Models in Kibera[16]

Model	Owner of Facility	Public or Private	Investment Funding Sources	Management Mode	Number of Latrines	Excreta Disposal Method	Technology	Price (in US$)		Services and Maintenance Quality
								Per Use	Per Month	
1	CBO	Public	Grant	Volunteer	105	Pit or bio-digester toilets	Pit latrines or pour flush	0.025 to 0.064	1.3	Poor
2	CBO	Public	Grant	Employee	24	Pit or bio-digester toilets	Pit latrines	0.025	-	Good
3	Private Operator	Public	Private / Micro finance	Employee	6	Sewer Connection	Pour flush toilets	0.038	-	Good
4	CBO	Private	Grant	CBO members and users	298	Pit	Pit latrines	-	2.6 to 5.2	Fair
5	Owner	Private	Owner and grant	Owner	60	Pit	Pit latrines	-	-	Good
6	Owner	Private	Owner	Owner	N/A	Pit	Pit latrines	-	-	Very Poor

[16] Recreated from The Water and Sanitation Programme's *Understanding Small Scale Providers of Sanitation Services: A Case Study of Kibera* (2005).
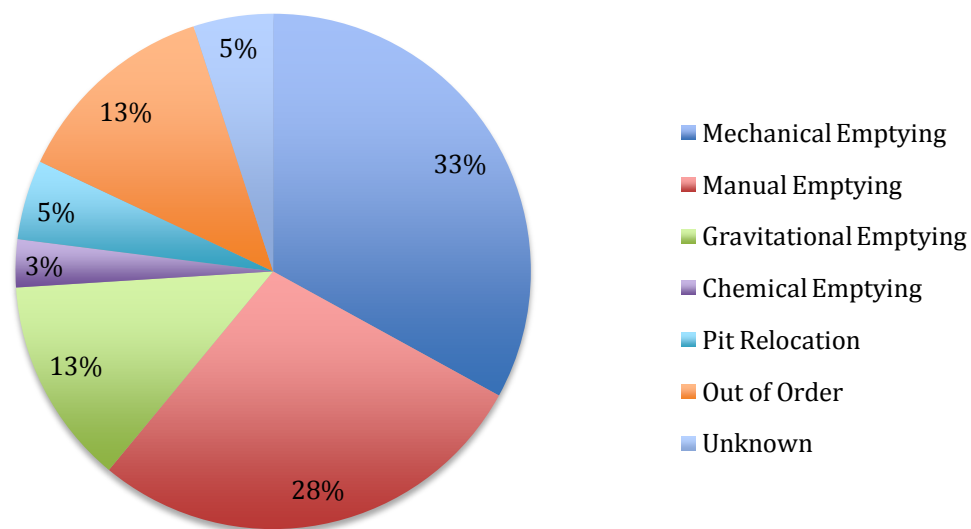
Providers of Sanitation: A Case Study of Kibera, shows the options for dealing with full pit latrines in Kibera and the percentage of how often each is chosen. While small-scale providers of sanitation services play a vital role in emptying many of these latrines, as Figure 4.4 shows, on average roughly 13% of Kibera's latrines remain "out of order."

In addition to the limited number of latrines available in Kibera, the Water and Sanitation Programme identified several key secondary factors that limit widespread accessibility to improved sanitation. Given that the majority of latrines in Kibera are externally funded, it is particularly telling that the majority of these latrines are clustered in the villages of Kianda, Laini Saba, and Makina while the remaining villages have few to no externally funded latrines (see Table 4.2). The Water and Sanitation Programme document that reports these findings suggests that this is largely due to poor coordination between the agencies involved and ease of access for construction crews (Bongi, 2005). Regardless of the underlying conditions that led to the inefficient latrine locations, for many residents this presents a large physical barrier to improved sanitation access. It is also probable that latrine usage in Kibera is not financially viable for a large proportion of Kibera's residents. As Table 4.1 shows, nearly all of the latrines' operational funding comes from levying a fee on users, either monthly or per use; some of these fees are static, others fluctuate. In the harsh economic environment of Kibera, many residents cannot justify paying a fee for the privilege of a latrine.

Table 4.2: Externally Funded Latrines by Village[17]

Village	Population	% of total population	Total Externally Funded Latrines
Gatwikira	52,234	11.1	1
Kianda	71,366	15.3	136
Kisumu Ndogo	48,340	10.3	34
Laini Saba	27,340	5.9	156
Lindi	57.715	12.3	30
Makina	95,636	20.5	96
Mashimoni	23,437	5.0	0
Siranga	53,850	11.5	30
Soweto	37,949	8.1	4

Figure 4.4: Methods for Dealing with Full Latrines in Kibera[18]

Legend:
- Mechanical Emptying
- Manual Emptying
- Gravitational Emptying
- Chemical Emptying
- Pit Relocation
- Out of Order
- Unknown

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[17] Recreated from The Water and Sanitation Programme's *Understanding Small Scale Providers of Sanitation Services: A Case Study of Kibera* (2005).

[18] Recreated from The Water and Sanitation Programme's *Understanding Small Scale Providers of Sanitation Services: A Case Study of Kibera* (2005).

Ultimately, the number, location, and costs (both in maintenance and usage) of latrines in Kibera prevent many residents from feasibly accessing them. In response, the residents resort to alternative methods for dealing with biological waste. Consider the account of Kennedy, 24-year-old student volunteer and Kibera resident:

4) "We don't have proper toilets here. Some good Samaritans and NGO's have put in toilet facilities of sorts, but it is very difficult. People just go on the roadside or riverside" (UN Office for the Coordination of Humanitarian Affairs, 2006).

Of course life in Kibera doesn't always allow people to use this direct of a method for relieving oneself. In response to what conditions allow, Kibera residents developed the infamous "flying toilet." Described as the one thing that is "making a mockery of sanitation," there is no delicate way to discuss flying toilets (Water and Sanitaiton Trust Fund, 2009). It is a common occurrence for Kibera's residents to relieve themselves in polyurethane bags and fling them as far away as possible from their huts afterward—hence the moniker. These practices are clearly appalling and far from ideal for many of Kibera's residents. Yet an individual's attempt to manage his or her biological waste in Kibera is an intensely personal struggle that often necessitates these appalling methods. The irony of these alternative methods is that though they represent Kibera's residents' best attempts to create a sanitary environment for themselves and their families, when scaled up to the entire population of Kibera over hundreds of thousands of iterations, they become key contributors to a vast collective sanitation nightmare—a true tragedy of the commons.

Based on the data available through The Water and Sanitation Programme's latrine research, of the identified latrines the majority are pit latrines (Bongi, 2005). Furthermore, it is logical to assume that externally funded latrines classified as "fair," or "good" are ventilated improved pit latrines. However, it is clear that many of Kibera's residents, for many reasons, do not have access to these latrines on a regular basis. Thus, though options for access to improved sanitation in Kibera do exist, these options do not represent the typical mode of sanitation used by the majority of Kibera's population.

There are non-essential services that exist in Kibera. However, the majority of the electrical connections that exist in Kibera are illegal and unreliable. A brief review of

periodicals shows that as recently as August of 2010 the Nairobi power company was working to disconnect illegal connections in Kibera, and this was met with violent resistance from the residents (Kibera News Network, 2010). In addition, many residents utilize wet cell batteries to power their homes, recharging them at stations within the settlement (Neuwirth, 2006). Whatever the source, even fleeting access to electricity allows for a number of amenities that Kibera's residents can utilize such as video halls (movie theaters). Perhaps the most interesting development in Kibera, however, is internet access. The vast majority of Kibera's residents do in fact have access the worldwide web—through mobile phones (The Associated Press, 2009). However, many of these residents rely on third parties to charge, and repair these phones. Thus, while the non-essential services available in Kibera provide for expanded amenity and self-awareness, indications are that access is limited, typically cumbersome, and has little impact on living conditions within Kibera.

Physical Infrastructure

The state of Kibera's physical infrastructure has been discussed in previous sections of this chapter—the water and sewer network is inadequate and failing, there is no comprehensive plan for waste removal from the area and the roads are narrow, irregular and often impassable for vehicles. This is summarized nicely in *Understanding Small Scale Providers of Sanitation Services:* "Most roads in Kibera are inaccessible to vehicles, drainage channels on the sides of roads are often blocked, pit latrines overflow (especially in the rainy season) and heaps of uncollected garbage are everywhere" (Bongi, 2005). These problems are often intertwined—inaccessible roads prevent trucks for waste removal, refuse clogs existing sewer/drainage channels, and blocked sewer drainage channels overflow and flood further compromising the physical infrastructure of Kibera.

It is difficult to discuss the public facilities of Kibera because of Kibera's unique ownership situation. Without land ownership and accurate land-use maps and classifications, there is not an accurate inventory of these public facilities as of yet. The best effort thus far is the Map Kibera initiative, whose database indicates that there are 211 health facilities in and around Kibera, and 228 education facilities in and around Kibera. According to the classifications of the education system in Kibera, there are 115 nurseries, 17 kindergartens, 57 primary schools, 19 secondary schools, and 32 Trade/other schools, shown in Table 4.3. While

this data does not provide any judgments of the physical quality of the educational facilities in Kibera, it does show that the facilities are present within the community. Additionally, these numbers seem to indicate that the nature of education within Kibera is a much more intimate, small-scale process in Kibera.

The Map Kibera initiative also provides a list of health facilities within Kibera. The basic classifications of these facilities are chemists, clinics, and health centers. Unlike the information available for the education facilities, there are additional layers of information in the health facilities data—ownership and operational status. There are three basic actors in health facilities: private owners, NGO owners, and CBO owners. The number of each type of facility as well as how many of the facilities are operational is shown by owner in Table 4.4. This data indicates that the majority of health facilities available in Kibera are chemist, or pharmacists, followed by clinics. Additionally, the majority of these facilities are privately owned. However, this data shows that a higher percentage of the CBO and NGO owned facilities are operational compared to the privately owned facilities, calling into question the quality of the privately owned health facilities in Kibera.

Table 4.3: Education Facilities in Kibera

Education Facilities (228)		
Classification	**Count**	**Percentage of Facilities**
Nursery	115	41
Kindergarten	17	6
Primary	57	20
Secondary	19	7
Trade/Other	32	11

Table 4.4: Health Facilities in Kibera

Total			
Facility	**Count**	**Operational Count**	**%**
Chemist	102	73	72
Clinic	78	64	82
Health Center	8	8	100
NGO Owned			
Chemist	3	2	67
Clinic	8	8	100
Health Center	3	3	100
Private Owned			
Chemist	80	70	88
Clinic	51	50	98
Health Center	4	4	100
CBO Owned			
Chemist	0	0	0
Clinic	3	3	100
Health Center	1	1	100

Land Tenure

Land tenure in Kibera is enigmatic. While the settlement has existed for nearly a century, very few of Kibera's residents are structure owners, and none of them are landowners. The concept of ownership in Kibera is complicated, and many sources indicate that a large portion of Kibera's population does not recognize they do not formally own the land they occupy (The Centre on Housing Rights & Evictions, 2006). This largely stems from a widely-held belief that prolonged occupancy equates to ownership in Kenya. In fact, the Kenyan constitution does provide for this type of ownership through adverse possession. If the long-term occupiers can prove that they have used the land continuously for 12 years they are legally entiteld to claim adverse possession and take ownership of the land (The Centre on Housing Rights & Evictions, 2006). Unfortunately, claiming adverse possession is not a realistic option for many residents because it is generally difficult to prove, the Kenyan Government can claim that the State is holding land in trust for the general public, and the process hinges on a motion being brought in court, which is costly (The Centre on Housing Rights & Evictions, 2006). Ultimately, the land Kibera occupies is classified as "forest" and remains government owned, though the Nubian residents make legitimate ancestral claims to the land allocated to their forefathers with the Kings African Rifles (Tension Runs High Over Nairobi Eviction Threat, 2009; Inter Press Service, 2009; The Centre on Housing Rights & Evictions, 2006).

Interestingly, the situation in Kibera highlights some unique bureaucractic issues. Land, particularly the access and control of it, figures prominently Kenya's history. Events such as the Mau Mau Uprising highlight the importance of land ownership and tenure security to Kenyans. In light of this history, it follows that in modern Kenyan culture, "[t]he granting of land is a primary mechanism for structuring society and gaining political power and allegiance" (Bassett, 2001). How this translates to Kenya's informal settlements is in access and use. The key actor in accessing and using land in Kenya's informal settlements is the Provincial Administration, a holdover from British colonial occupation. Initially a mechanism for African civil service in the British colony, the Provincial Administration is composed of local elders and chieftains of Kenyan neighborhoods, employed by the State, that shoulder some of the administrative responsibility (Neuwirth, 2006). In many aspects of Nairobi, which is both a Province and a City, the Provincial Administration is very much a "do-nothing" bureaucracy as all of the

provision, delivery, and maintanence of services and infrastructure is the responsibility of the the Nairobi City Council (Neuwirth, 2006). Yet there is one particularly important administrative duty the Provincial Administration performs; it controls the access and use of government land courteousy of temporary occupancy permits (Neuwirth, 2006). Therefore, the Provincial Administration has the final say in determining who can build in Kibera, when and where they can build, and when the structures have to come down. Not surprisingly, this system is ripe for corruption given the unique conditions of Kibera. During his time in Kibera and Nairobi, Robert Neuwirth notes that many of the residents stated that the local chiefs and elders took bribes for permission to build and make any improvements to a structure. When he confronted these chiefs and elders, they denied taking bribes but conceded that it could be happening in other areas (Neuwirth, 2006). In effect, the Provincial Administration dictates development in Kibera. It makes the final decision in who gets to build, where they get to build, and how they get to build. Above all, they reserve the right to revoke these temporary occupancy permits at any time. In this way, a structure owner's tenure security is, in many cases, dependant on the relationship he or she has with the local elder or chief from the Provincial Administration: "Structure owners have some security of tenure, depending on the arrangements they have made with the Provincial Administration and Councillors. However, the recent eviction threats have demonstrated how precarious that tenure is" (The Centre on Housing Rights & Evictions, 2006).

The security of tenure for structure owners is only the beginning of the problem. Estimates vary, but on average, sources indicate that roughly 90% of Kibera's population is not a structure owner, but a tenant (Bongi, 2005; Neuwirth, 2006; The Centre on Housing Rights & Evictions, 2006). Most of the structures in Kibera are absentee-owned because owning a mud-hut is a good investment. Nairobi residents often buy or build mud huts in Kibera because the overhead is low, and there is no legal recourse for not maintaining the structure or providing services—profit is virtually guaranteed after nine months (Neuwirth, 2006). Additionally, it is likely that the number of more wealthy absentee owners hinges on their ability to pay the "auxilliary" costs associated with securing a temporary occupancy permit. In terms of tenure security, this means that roughly 90% of Kibera's population has even less tenure security than structure owners. In addition to the precarious legal nature of the structures in Kibera, tenants have virtually no protection from the demands and whims of Kibera's structure owners. Consider Neuwirth's account of Michael Owaga Obera, Kibera resident who works for the

Nairobi City Council: "When he arrived, the rent was 150 shillings a month. At the time each house had its own latrine, and the commmunity was safe, even late at night. By 1999, the rent on Michael's two rooms was 1,900 shillings. Then Kenya's President Daniel arap Moi ordered landlords to reduce their rents. In late 2002, he was paying 1,300 shillings, but the landlord was demanding 1,600 and had refused to accept the lower amount for three months. Michael feared he could be evicted" (2006). On top of issues with absentee ownership, clashes between ethnic groups still affect safety and tenure security to this day. As recently as September of 2009, all non-Nubian residents of the Makini neighborhood in Kibera were threatened with eviction by the Nubian population: "Letters seen by Nation that was used to threatening [sic] members from other communities claimed to be signed by a Mr Sheik Mohamed called on all non-Nubians to move from the plot or else face unexplained consequences. 'You must vacate this land by May 1 or else you will face dire consequences'"(Tension Runs High Over Nairobi Eviction Threat, 2009). Raila Odinga, prime minister and parliamentary representative for the Lang'ata area in which Kibera resides, has promised the Nubians title deeds to their land upon the initiation of the KENSUP plan, but as of late August 2010, this has not occurred (Mangat, 2010). Ultimately, whether an ancestral resident, structure owner, or a tenant, it is clear that tenure security in Kibera is virtually non-existent.

Housing Unit

Kibera is composed of two basic types of housing unit—mud huts and corrugated steel huts. In discussing the durability of these structures, it is obvious that permanent building materials and overall permanency of structure are not allowed in Kibera. A key criteria of the temporary occupancy permits that allow the structures of Kibera is that the structures remain temporary. As this snippet from *Shadow Cities* shows, the Provincial Administration is unyielding in this respect: "I asked one chief to imagine that I was a local resident who wanted to take down my mud hut and build with concrete and brick. 'That is not permitted,' he told me. I persisted. What if I built it anyway? 'I would knock it down,' he said" (Neuwirth, 2006). This process ensures that the structures in Kibera remain temporary, and removes any incentive for structure owners to make improvements. Furthermore, given that there is no building code that governs the quality of structures within Kibera, many are dilapidated and in need of major repair.

Environmentally, Kibera's structures are often compromised. Consider the account of Kibera resident Wambua: when he first moved to Kibera, he lived in a hut next to the latrine. When the latrine wasn't emptied and the rainy season came, Wambua came home to find that the latrine had overflown into his hut. After moving out of this hut, his next hut was on a hill so steep that the path to his house was three feet below his doorway (Neuwirth, 2006). In Kibera, this environmental vulnerability is not uncommon. The typical structure, both mud or corrugated steel, is often located near waste, within floodplains, and/or on unsafe slopes. For example, over the late spring and early summer of 2010, Kibera sustained significant flood damage during heavy rains. The team from Map Kibera, a non-profit that utilizes GPS and mobile phones to create an open source map of the area, worked to identify and report on the flooding. According to their official blog, "there were more than 50 houses severely damaged, displacing the inhabitants. One school was completely swept away. Walking calmly, I didn't even notice anything in particular, until Hasan suddenly pointed out that I was standing where only days ago a school had been. Not even the foundations were visible anymore" (Map Kibera, 2010). Therefore, the characteristics of the average structure in Kibera are summarized in Table 4.5.

Table 4.5: Adapted Characteristics of Durable Housing Units in Kibera

Structure Type	Permanency	Physical State	Environmental Security
Mud Hut	Little to none.	Provides climate protection, but is susceptible to environmental damage and often in disrepair.	Not guaranteed. Often located on steep slopes, within floodplains and near waste.
Corrugated Steel	Little to none.	Provides little to no climate protection and is often in disrepair.	Not guaranteed. Often located on steep slopes, within floodplains and near waste.

Neighborhood Unit

As the previous sections of this report have alluded to, the environmental quality of Kibera is poor. There is, however, a strong sense of belonging, and community identification in Kibera and its villages. This is showcased by the Nubian community's ancestral claim to the land, and the many accounts of Kibera residents who sing its praises despite the obvious issues, although it is tempered by social tensions. Perhaps the largest contributing factor for this poor environmental quality and social tension is the sheer number of individuals located in Kibera. Population and structure counts vary, but it is estimated that on average, nearly 3.5 people occupy a $10m^2$ single-room structure throughout the settlement (UN Office for the Coordination of Humanitarian Affairs, 2006). This estimate is just under the acceptable urban conditions laid out by UN-HABITAT, which states that there should be no more than three people per habitable room, $4m^2$ ("Slums of the World," 2003). While the average dwelling unit is not overcrowded according to these estimates, the 250-hectare ($2.5km^2$) settlement struggles to accommodate the estimated 800,000-person population at 320,000 persons per km^2. This density is clearly visible in satellite imagery of the settlement shown in Figure 4.5. This density has collateral effects on the physical health and visual quality of the neighborhood unit. Open space is rare, and often tainted with exposed waste. This leads to significant health concerns: "The spread of infections from one person to another are frequent because of the overcrowding and congestion situation in slums […] the most common communicable diseases in Kibera slums are cholera, malaria, and diarrhea" (Mercy & Elizabeth, 2008). Visually, Kibera is characterized by crowded makeshift structures and exposed waste and sewage. This presents a very negative and polarizing image of the neighborhood unit in Kibera.

Figure 4.5: Aerial photograph of Kibera[19]

Concluding Comments

This chapter discusses the history and living conditions of Kibera according to the conceptual framework laid out in this study's literature review. This discussion shows that Kibera's residents have little or no access to safe drinking water and adequate sanitation services. Additionally, the current land tenure system does not provide Kibera's residents with secure land tenure, the housing units are in poor condition, and the physical environment of the neighborhood unit is overcrowded and unsanitary. In short, Kibera typifies slum living conditions. The relationship Kibera's residents have and have historically had with the overarching administrative bodies is largely exploitative. This relationship is rife with corruption and administrative oversight that plays a large role in determining living conditions in a settlement, particularly when compared to Sultanbeyli.

[19] Taken from google.com/maps at a scale of 1"-200'

CHAPTER 5 - Sultanbeyli

"In Sultanbeyli, nobody owns, but everybody builds. Fatih Boulevard, the main drag, is 5 miles long and boasts a strip of four-, five-, and six-story buildings complete with stores, restaurants, banks and real estate brokerages" (Neuwirth, 2006).

Figure 5.1: Locating Sultanbeyli

(*Sultanbeyli Istanbul Highlight, n.d.)*
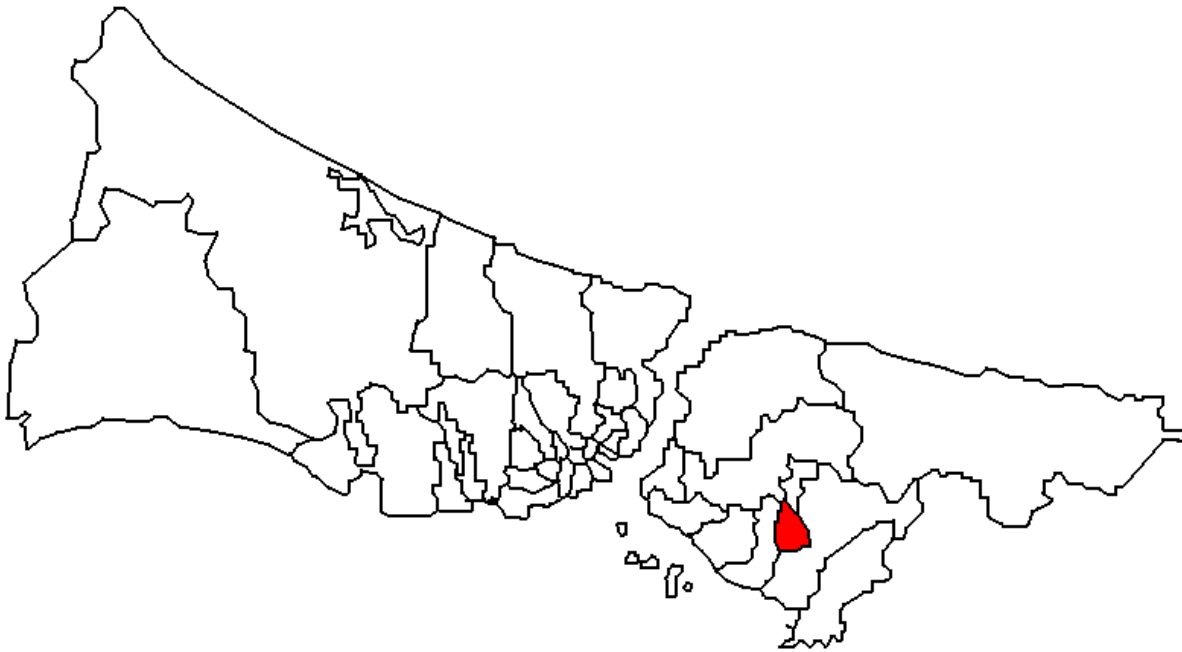
Sultanbeyli is one of the most interesting and enigmatic communities in the world. A predominantly Muslim district on the Asian side of Istanbul (see Figure 5.1), Sultanbeyli boasts a population of roughly 300,000 people. From humble roots, Sultanbeyli has grown to an undeniably attractive and active urban center. The area boasts an impressive laundry list of amenities, all achieved without formal ownership: "150 major avenues, 1,200 streets, 30,000 houses, 15 neighborhoods, 300,000 people, 91 mosques, 22 schools, 48,000 students" (Neuwirth, 2006). Officially a district (*ilçe*)[20] in the Istanbul province, Sultanbeyli controls its own destiny though a popularly elected mayor, a planning department, a department of public works, and a santitation department (Neuwirth, 2006). As characterized in *Shadow Cities* and shown, the Sultanbeyli that exists today is a true downtown:

> "Over the years, central Sultanbeyli became a true downtown. Here, along Fatih Boulevard, is a line of impressive buildings housing impressive businesses: banks, travel agents, money exchange shops … jewelers, car dealers, Internet cafes, department stores, restaurants, and a post office" (Neuwirth, 2006).

Although Turkey and Istanbul both boast ancient histories, the Sultanbeyli that exists today is largely the product of construction that occurred after the mid-1980's (Tugal, 2008). The most obvious and general conclusion, is that rural-urban migration dictates the development and growth of informal settlements. This positive correlation[21] is clearly indicated in Sultanbeyli's development and was the conclucions that Noah Billig reached in *Evaluation of Open Space Form and Use in an Istanbul Squatter Settlement* (2009). However, to say that rural-urban migration is *the* cause of Sultanbeyli's development and growth post 1980 is to ignore the complex and entangled processes at work in Turkey, Istanbul, and Sultanbeyli—to ignore the inherent wickedness of Sultanbeyli. Rather, efforts must be made to understand the historical context of Sultanbeyli and the unique external and internal processes and factors working within Sultanbeyli contributing to its development and shaping its living conditions.

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[20] See Table 4.1 – Turkish Administrative Structure

[21] Refers to the statistical definition of positive correlation meaning that as rural-urban migration increases so does the development and growth of Sultanbeyli.

Figure 5.2: Fatih Boulevard, Sultanbeyli

(Sultanbeyli evden eve nakliyat, n.d.)

History

When discussing the history of Sultanbeyli, a brief overview of the history of Istanbul is necessary. The term "empire" is not used casually in the annals of history, and it should not be overlooked that Istanbul has figured prominently in the Roman, Byzantine, and Ottoman Empires. As the capital of the Eastern Roman Empire, Byzantium—as it was known at the time—served as an important seaport and center of trade. During a struggle for the throne in 191 AD, the city was razed and consequently rebuilt on a larger scale by Roman Emperor Septimius Severus (Governorship of Istanbul, 2009). In the 4th century the Emperor Constantine, infamous as being the first Christian Emperor, declared the city his capital and renamed it to Constantinople (Governorship of Istanbul, 2009). Following the split of the Roman Empire in 395 AD, the Eastern Empire (known modernly as the Byzantine Empire) endured a significantly longer history than that of the Western Empire, which fell in the 5th Century, including a period of civil war between families (726-842), Latin occupation following the Fourth Crusade (1204-1261) until the city was finally conquered by the Ottoman Turks in 1453 (Governorship of Istanbul, 2009). The Ottoman Sultan Mehmet moved the capital of the Ottoman Empire to Constantinople, renamed the city Istanbul, and the city remained under Ottoman control until the

First World War (Governorship of Istanbul, 2009). During this period, though relatively war free, the city suffered frequent devastating fires that shaped the urban morphology of the area (Governorship of Istanbul, 2009). Following the breaking up of the Ottoman Empire, Mustafa Kemal Ataturk prevailed after a four year war of independence to form the first republic in Asia, exiling the Sultan and his family, adopting the Latin alphabet and outlawing the fez and veil (Governorship of Istanbul, 2009). With the formation of the new Republic, the founders moved the capital from Istanbul to Ankara, and Istanbul was "abandoned" (Tugal, 2008). Ankara received the bulk of infrastructure investment, and although Istanbul remained the main trading center of Turkey, the population halved (Tugal, 2008). What resulted, was a culturally diverse, economically active city with a significant population void that ripe for explosion—this explosion took the form of gecekondu.

Far out on the Asian side of Istanbul, the Sultanbeyli of 1969 was described by former mayor Yahya Karakaya as a "sleepy" rural settlement of two dozen families who raised cows, sold the milk to passing city-dwellers, and harvested lumber from the forest (Neuwirth, 2006). Sultanbeyli began as a *gecekondu* community—a simple squatter settlement. The term *gecekondu* is a combination of the turkish words *gece*, meaning "night," and *kondurmak*, meaning "to happen," thus the word literally translates "to happen at night" (Neuwirth, 2006). *Gecekondu* communities originated as a result of conflicting Roman and Ottoman property laws. Essentially, *gecekondu* are settlements that took advantage of an archaic loophole in Turkish law: if an adequately habitable structure was in place when they arrived, authorities could not remove the residents or raze the structures without taking them to court (Neuwirth, 2006). Thus, many original settlers seeking housing built quickly at night, occupying the land they desired. Initial attempts to address the *gecekondu* in 1949, involved attempts to destroy the illegal dwellings— the federal government passed a law requiring the *belediye* (municipalities) to destroy the gecekondu (Neuwirth, 2006). However, the idea of alienating a large voting base within the *belediye* was "politically unpalatable" and the government amended the law to allow the improvement of existing *gecekondu* and demolition of new *gecekondu* only (Neuwirth, 2006). The government passed a similar law in 1966 granting amnesty to existing *gecekondu*, and again in 1984 and 1990—this time allowing for redevelopment of the existing *gecekondu* areas (Neuwirth, 2006).

The development of Sutlanbeyli largely took place during the 1980's. One of the most obvious engines in Sultanbeyli's, as with many informal settlements', development is rural-urban migration (Davis 2006; Fernandes 2008; Billig, 2009). As the Turkish economy stagnated, there was a large shift of rural populations travelling to urban areas looking for work. Of course, other factors facilitated the growth and development of Sultanbeyli as well. Sultanbeyli also enjoyed easy access to land and a major highway passing through the middle of Sultanbeyli opened in the mid 1980's. Not surprisingly, Sultanbeyli became a particularly desireable location for many people working in Istanbul and seeking housing because of these factors (Neuwirth 2006, Tugal 2008). But not all of the factors contributing to Sultanbeyli's rise are direct, politics played a major role in Sultanbeyli's growth. There are some key political factors that help establish Sultanbeyli's historical context. The first of these key factors the posturing between the secularist and Islamist populations of Istanbul. Due to its rich cultural heritage, Istanbul has strong ties to both Islamic and secular systems of governance and the two sides often jockey for support among local communities. In Sultanbeyli, this is a particularly interesting phenomenon:

> "In the early 1980's Sultanbeyli had been little more than a village on the edge of the forest, with a population of around 4,000 and no distinctive political or religious coloration. The people living there were mainly Black Sea migrants, SHP[22] supporters who co-existed peacefully enough with more religious residents…by 1989 Sultanbeyli had a population of 80,000 and an RP[23] mayor" (Tugal, 2008).

The scenario Tugal outlines indicates a fundamental shift in Sultanbeyli's community fabric with significant socio-political implications. The RP leadership entrenched itself in the community offering easily accessible land for new settlers, as well as help with food, clothing and construction materials. Accordingly, Sultanbeyli was molded into what is characterized as a Muslim "fortress," with a population swelling to nearly 300,000 (Tugal, 2008). Tugal's account of Sultanbeyli's development, however, does not mention how Sultanbeyli gained access to

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[22] The secular Social Democratic People's Party

[23] The Islamist Welfare Party

formal political representation within Turkey's administrative structure. The second key political factor in understanding Sultanbeyli's historical development is a brief discussion of access to formal political representation. This representation is borne of another interesting aspect of Turkish law. In Turkish law, communities with at least 2,000 residents can organize and apply to the federal government to register as either an *ilçe* (district), or *belediye* (municipality), granting the local community a modicum of control over planning and the ability to collect revenue for services (Neuwirth, 2006). In short, communities have the right to organize and begin controlling their own destiny. Sultanbeyli is currently an *ilçe* in the Istanbul province as a result of this application process and the organization of the community alluded to in Tugal's account of Sultanbeyli's political evolution.

Table 5.1: Turkish Administrative Structure

Designation	Equivalent Translation	Description
Bölge	Regions	Seven census-defined regions that have no administrative context—they are simply statistical.
İller	Provinces	81 Provinces administered by an appointed governor (*vali*).
İlçeler	Districts	Currently 957 districts in Turkey governed by the district central (*ilçe merkezi*[24]) of the province where the sub-governor (*kaymakam*), or head official of the district, resides.
Merkez ilçe	Central District	One district of each province that is administered by an appointed vice governor of the province.
Büyükşehir	Metropolitan Municipality	Some *belediye* are designated as metropolitan municipalities, or "big cities," and have some specific administrative duties with respect to the *belediye* contained within its boundaries.
Belediye[25]	Municipality	Municipalities with a mayor who governs a specific geographic area (*belde*).
Koy & Mahalle	Village & Quarter	The two smallest administrative divisions with their own elected officials (muhtars) with specific administrative responsibilities.

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[24] Not to be confused with the *merkez ilçe*, which refers to the Central District of the province

[25] There are two types of *belediye* because communities outside the *belde* have the right to apply to the federal government to become *belediye* or *ilçe* when they have at least 2,000 residents. These *beliediye* haven't yet become district centers (for any given reason) and as such have a mayor responsible for its municipal zone but not its own *kaymakam* (sub-governor). It depends administratively on the district center of the district it is within.

Living Conditions

Infrastructure

Services

In the absence of firsthand observation, the discussion of these services in the literature is the source drawn upon for judgments made in this report. In particular, the observations of Robert Neuwirth (2006 & 2007), Cihan Tugal (2008), and to some extent, the New York Times Article "In Quake-Threatened Cities, Quick Growth Invites Disaster" (Revkin, 2010) form the basis of this observation. In looking at the accecptable urban living conditions criteria discussed in Chapter 2 in conjunction with these observations, this report develops a generalized idea of the living conditions within Sultanbeyli and further, initial judgments of said living conditions.

In general discussion, the infrastructure in Sultanbeyli is significantly better than that of the typical informal settlement: most criteria of acceptable urban conditions are met; the built environment is both functional and aesthetically pleasing, as is the case with the public facilities (Neuwirth 2006 & 2007). This is already a sharp divergence from the conditions exhibited in Kibera, however, a number of comments pulled from the literature provide an opportunity to draw more specific conclusions. Firstly, in deference to water and sewer services:

1) "ISKI, the city's water authority[26], has invested more than 143 trillion Turkish Lira (almost $90 million) to pipe in water to every home. In 2002, two-thirds of the city's neighborhoods had water available to every house. Streets in the remaining five neighborhoods were already being ripped open so the massive water mains could be installed" (Neuwirth, 2006).

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[26] In the administrative divisions of Turkey, some municipalities are under the administration of a larger metropolitan municipality (büyükşehir) as well as their own administration. In this case, Sultanbeyli is also within the administration of metropolitan Istanbul. This is expanded upon in Table 5.3.

There are several conclusions one can draw from this observation. Firstly, it is reasonable to conclude that the construction discussed in *Shadow Cities* is completed at the time of this report's composition eight years later. Barring natural disaster or human intervention (war, political dealings, sabotage, economic disinvestment, etc.), eight years is an adequate timeframe for finishing the construction and installation of Sultanbeyli's water mains. Secondly, it is fair to assume that the majority of individual households in Sultanbeyli have a piped water connection to the house or plot (See Table 5.2). It is important to recognize "most" as a qualifier in the previous statement because there are undoubtedly households that remain without piped connections. Indeed some issues are exposed in Neuwirth's further discussion of Sultanbeyli's water services: a onetime fee of $160 and the installation of a meter cause many residents to balk at the idea of hooking up to municipal water services (2006 & 2007). This apprehension is best illustrated by Neuwirth's description of Zamanhan Ablak in *Shadow Cities* (2006):

> "Ablak came to Sultanbeyli's Akşemsettin in 1995, before services were formally
> available through Sultanbeyli or Istanbul. Instead, he and his neighbors
> contributed their own money and paid for their own services—sewers (200
> million Turkish lira), schools (310 million), and a mosque (65 million). Now he
> and other Akşemsettin residents are taxed for the municipal services and still
> required to pay the hook-up fee for the water mains. Though Ablak has indoor
> plumbing, he had up until the publishing of this book, refused to pay to hook up to
> the water main."

Ablak's apprehension to pay is not difficult to understand—in a community primarily built through self-help[27], municipal fees and taxes represent a generally unnecessary investment. Additionally, it is fair to assume that some of the population simply cannot afford the connection fees. The result, with respect to the water access of Sultanbeyli, is the assumption that a modicum of the population has yet to pay for access to the water mains. Yet interestingly, Ablak's story provides another dimension to the water access

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[27] "Self-help" is the buzz term applied to everything that informal settlers or squatters do or themselves (i.e., self-help housing, self-help services, etc.)

profile of Sultanbeyli: if a citizen *chooses* not to hook up to water mains, this indicates that other reasonable water access modes exist within the settlement. Furthermore, combining this with the literature's intimation that the majority of the community has embraced direct water connections, the condition of water access in Sultanbeyli is good.

Table 5.2: Typical Acceptable Water Access in Sultanbeyli

Water Access Mode
Piped connection to house or plot
Public stand pipe serving no more than 5 households
Bore hole
Protected dug well
Protected spring
Rain water collection

With respect to sanitation, Quote 1 above pulled from *Shadow Cities* alludes to some interesting ideas as well. In general, with piped water connections in home, indoor plumbing for the purposes of sanitation follows. Yet, it is not expressly indicated in the literature that any mode of sanitation other than indoor plumbing with direct sewer connection occurs in Sultanbeyli. Rather, commentary indicates that the majority of Sultanbeyli has access to public sewer. The use of such services is dependent on embracing water connections, as illustrated yet again, by Zamanhan Ablak: "Although the home he built has full bathrooms and showers inside, his building still does not have water" (Neuwirth, 2006). Again, Ablak's choice to avoid connecting to the water mains seems to indicate that sufficient improved sanitation options exist in the community (public toilets, public buildings, etc.) that allow him to avoid paying the water connection fee.

Another particularly poignant quote pulled from *Shadow Cities* that provides an indication of the access to improved sanitation in Sultanbeyli:

2) "Today, Sultanbeyli is an independent squatter metropolis—population 300,000—and Yahya Karakya is its popularly elected Mayor. From an oversized desk in a

cavernous office on the seventh floor of the massive squatter City Hall, he presides

over an empire that includes everything you thought squatters could never achieve: a

planning department, a department of public works, a sanitation department, even a

municipal bus service" (Neuwirth, 2006).

The existence of a planning, public works, and sanitation department within Sultanbeyli's

administration is a key point. Among other things, it shows that the capacity of the

administration(s) overseeing Sultanbeyli is fairly high with respect to the global context—

someone locally empowered is planning and there are administrative tools to implement these

plans. Furthermore, with a dedicated sanitation department bolstered by municipal planning, a

specific plan for collecting, transporting, and dealing with solid waste exists. In light of this

commentary, it is assumed that, as with access to water, the majority of the population in

Sultanbeyli has access to direct connections to the public sewer (see Table 5.3). Thus, the

general characterization of access to improved sanitation in Sultanbeyli is good.

Table 5.3: Typical Improved Sanitation Access in Sultanbeyli

Waste Disposal Mode
Direct connection to public sewer
Direct connection to septic tank
Pour flush latrine
Ventilated improved pit latrine

The literature also indicates that many non-essential services are widely available in

Sultanbeyli (electricity, gas, Internet), as well as a vibrant economic sector capable of serving a

fairly high level of consumerism. Consumerism is useful for characterizing a settlement when

categorizing the goods and services exchanged within a settlement according to value. The

consumerism exhibited in Kibera, while impressive circumstantially, pales in comparison to the

goods and services offered on Fatih Boulevard, which is "lined with impressive buildings

housing impressive businesses," such as Internet cafes, jewelers, car dealers, and department

stores[28] (Neuwirth, 2006). Clearly the market value of goods exchanged in Sultanbeyli is far higher than the goods exchanged in Kibera, and this gap in the goods and services offered in the communities is an indicator of the gap between the settlements' levels of development. Perhaps even more interesting, however, is the installing of gas pipes in Sultanbeyli. In installing gas pipes, Sultanbeyli distinguishes itself from many formal areas of Istanbul as well, because "in most neighborhoods of Istanbul, even many legal ones, people run their stoves on bottled gas" (Neuwirth, 2006). The installing of gas pipes in Sultanbeyli represents a fairly bold statement indicating the community's desire to throw off a traditional neighborhood norm for modern convenience. If nothing else, this statement serves as further indication that the residents of Sultanbeyli live according to a higher standard of living than the average informal settlement.

Figure 5.3: Businesses along Fatih Boulevard, Sultanbeyli

(Sultanbeylİ turkcell extra, n.d.)

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[28] See Figure 5.3

Physical Infrastructure

Assessing the physical infrastructure of Sultanbeyli is particularly interesting because there is some conflict within the literature. Neuwirth's initial characterization of Sultanbeyli is as "indistinguishable from the legal neighborhoods of the city" (2006). This statement seems to indicate that Sultanbeyli is physically similar to the average Turkish city, a presumably good physical condition. Additionally, photographs from Sultanbeyli seem to confirm this assumption. However, further research proves that "indistinguishable" from the legal neighborhoods of the city does not mean that Sultanbeyli is without infrastructure concerns. In discussing the evolution of neighborhoods in Istanbul, Tugal notes that there are "signs of extreme poverty still visible in Sultanbeyli—schools without running water, unpaved roads" (Tugal, 2008). Both schools without running water and unpaved roads constitute concerns with physical infrastructure (public facilities and transportation infrastructure), but the assertion that they represent signs of extreme poverty is an overstatement. Within the context of informal settlements, some unpaved roads is significantly better than no paved roads. Similarly, the presence of schools and public facilities is a distinguishing factor from many informal settlements. Furthermore, the former local administration focused heavily on fostering the development of public amenities:

> "'I want Sultanbeyli to be very aesthetic,' former Mayor Karakaya said. 'I want more leisure and modern things, more teahouses and parks and public services.' While he was Mayor, he allocated the money for eight public parks to be constructed and trees to be planted on major streets. And he was starting to look at funding social and economic programs, like carnivals and markets" (Neuwirth, 2007).

This level of investment in public facilites is a telling indication of the comparative levels of development of Sultanbeyli and other informal settlements. Surely these infrastructure concerns (schools without running water and unpaved roads) are of note, but in comparison to Kibera's physical infrastructure Sultanbeyli is undeniably better off. Thus, based on Neuwirth and Tugal's characterizations and Figures 5.2-5.4, the physical infrastructure of Sultanbeyli is good.

Figure 5.4: Sultanbeyli from Above

(Sultanbeyli tem otoyolu, n.d.)

Land Tenure

The structure of land tenure in Sultanbeyli is largely affected by the historical systems of governance in Turkey and Istanbul. Prior to the establishment of the Republic of Turkey and the subsequent adoption of Roman laws, Ottoman laws governed the area that is now Turkey for many years. Despite the adoption of Roman laws many Ottoman traditions remained. This resulted in a complex, hybrid system of governance where Roman laws essentially "lay on top" of Ottoman traditions (Neuwirth, 2006). How these two systems interact with respect to land tenure and property ownership is particularly fascinating. Roman law is based in and endorses private ownership, whereas Ottoman tradition is quite the opposite.

In the Ottoman Empire, all land belonged to the Sultan, and the Sultan would grant land to favored subjects, to which they had the right to collect rents (Neuwirth, 2006). This right could be sold or passed on to heirs, but the land remained the property of the Sultan and the Sultan could revoke any granted right to said land at will (Neuwirth, 2006). The tenants who rented on the land, however, were provided a modicum of protection through permanent leases known as *tapu* (Inalcik & Quataert, 1994). *Tapu* is a principal piece of the complex, pragmatic Ottoman property system. What *tapu* represented in the Ottoman Empire was the usufructuary

right to a plot of land, not ownership. Interestingly, this right was not revocable by the Sultan and could be passed on to descendants (Inalcik & Quataert 1994, Neuwirth 2006). Of course, this right was not free, *tapu* was granted in return for the meeting of a series of fiscal obligations and a pledge to cultivate the land continuously (Inalcik & Quataert, 1994). *Tapu* was designed to ensure that the land within the Ottoman Empire was used efficiently toward the Sultan's goals, namely the growth of the Empire: "the laws regarding land were designed to keep farmers farming, soldiers fighting, and the empire growing" (Neuwirth, 2006). In practice, the Ottoman land laws established a cultural and historical base for the development for informal settlements as they encouraged citizens to occupy vacant parcels as long as the land was put to use (Neuwirth, 2006).

With the adoption of Roman laws, the legal concept of *tapu* became a gray area. The vast majority[29] of land in the Turkish Republic was occupied according to the many incarnations of *tapu*, a concept that held no legal bearing in the new tenure system, leaving a significant percentage of the population in a legally precarious position. The largest portion of Istanbul's land, including Sultanbeyli, is held in *hisseli tapu,* or "shared title." It's not specifically enumerated how *hisseli tapu* came to exist, but the working definition is comically complicated. As described by Mustafa Karataş, former press secretary of Sultanbeyli, "There might be thousands of shares. It's not even certain how many square meters is one share. And even if you had one share, you could have built on five" (Neuwirth, 2006). For a number of reasons, the majority of the people who occupy *hisseli tapu* land are not shareowners, and most of the shareowners probably have no idea they are (Neuwirth, 2006). Absent private ownership, the current land tenure system ideally works like this: for a prospective resident to build in Sultanbeyli, he or she pays for a *ruhsat*, or a document that gives him or her permission to build from the municipal planning department—this does not grant him or her *tapu*, simply permission to build (Neuwirth, 2006). Of course, not everyone pays for a *ruhsat* before building, and traditional *gecekondu* methods prevail in the absence of this assured right to build (Neuwirth, 2006). The net result of both methods, however, is the same—300,000 people on land that does not formally belong to them. That being said, it is clear that Turkish laws and customs afford

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[29] In the waning years of the Ottoman Empire, the Sultan attempted to secure support through different means, one being the granting of land ownership.
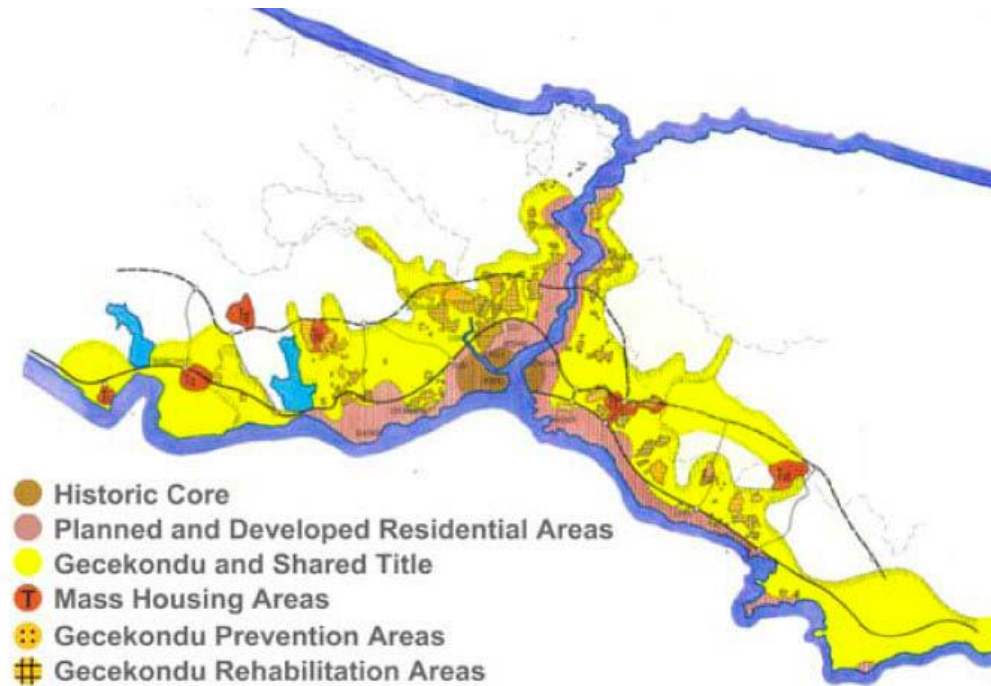
Sultanbeyli's residents a significant amount of tenure security because they have a high level of confidence in their right to occupy and use their lands. To characterize the tenure security in Sultanbeyli, it is *de facto*, quasi-formal, and fairly secure.

Moving forward Sultanbeyli intends to transition to *ifrazli tapu*--private ownership. Of course the current system complicates the implementation of this transition. The municipal government's plan of action is to research the *hisseli tapu* owners, buy them out, and sell the land, complete with title, to the current occupiers (Neuwirth, 2006). A complicated process, but the government is convinced the transition to private ownership will only move Sultanbeyli forward. There are concerns, however, with whether or not this moving forward will also include Sultanbeyli's current citizens (Neuwirth, 2006). Among the most pressing concerns, private ownership may set off a wave of speculation within Sultanbeyli that could heavily gentrify the area. Even more basic, not all citizens can afford to buy their *tapu*[30]. Although counterintuitive, it is entirely possible that with the advent of *ifrazli tapu*, the tenure security in Sultanbeyli may actually decrease.

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[30] For in depth discussion, see Neuwirth, R. (2006). *Shadow Cities.* New York, NY: Routledge.

Figure 5.5: Gecekondu in Istanbul

(Kaptan, 2007)

Legend:
- ● Historic Core
- ● Planned and Developed Residential Areas
- ● Gecekondu and Shared Title
- ⓣ Mass Housing Areas
- ▦ Gecekondu Prevention Areas
- ▦ Gecekondu Rehabilitation Areas

Housing Unit

Housing units in Sultanbeyli take many different forms. As Aylin Brigitte Yildrim notes in "Informal Settlements in Turkey-Gecekondu in Istanbul and Alternative Solutions to Redevelopment," *gecekondu* can be divided into sub-categories: *frozen gecekondu, post-gecekondu, apartmankondu* and *varoş* (2008). *Frozen gecekondu* refers to *gecekondu* that are still in their original shape as it pertains to structures, and shape patterns. *Post-gecekondu* refers to the "next step" evolution in *gecekondu* where small-scale multi-unit structures have replaced the majority of the original *gecekondu*. *Apartmankondu* refers to the large, informal, multi-story apartment complexes commonly found in urban areas (Yildirim, 2008). *Varoş* refer to slum-like *gecekondu* areas characterized by inferior building quality (Yildrim, 2008). Sultanbeyli, a roughly 50 km^2 area, is composed by an interesting mix of all types of *gecekondu* structures. The majority of the construction in Sultanbeyli post 1980 has taken the form of *post-gecekondu* and *apartmankondu*, although there are still some areas that can be classified as *frozen gecekondu*. In exploring Orhangazi, one of the newer neighborhoods of Sultanbeyli, Robert

Neuwirth stated that "the frenzy of urbanization can't mask a village atmosphere" (2006). In Orhangazi, the homes are "undeniably spartan: simple single-story buildings, hardly more than poured concrete frames with windows" (Neuwirth, 2006). Clearly, within Sultanbeyli there is a diverse mix of housing units. For this report, however, it is important to discuss how the housing units in Sultanbeyli relate to the characteristics of durable housing as outlined in Table 2.3—this comparison is shown in Table 5.4. In short, many of the structural characteristics discussed cannot be definitively discussed because they are unique to the individual housing unit. In the case of *frozen gecekondu*, the structure must be permament and has to be in good condition, otherwise it would be torn down. However, whether or not this is in a flood plain, on a steep slope, in a dangerous right of way, or in compliance with building codes is a matter of individual investigation. If building codes exist for an area, then any new gecekondu must be in compliance with these building codes—the same goes for *post-gecekondu* and *apartmankondu*. Presumably, any investment at the scale of *post-gecekondu* and *apartmankondu* would occur in non-hazardous areas, but this assumption cannot be confirmed. However, in overview, based on Table 5.4 and discussion contained in the Literature, the housing units of Sultanbeyli are fairly good within the context of informal settlements.

Table 5.4: Adapted Characteristics of Durable Housing Units in Sultanbeyli

Structure Type	Permanency	Physical State	Environmental Security
Frozen Gecekondu	Minimally permanent.	Potentially dilapidated, but required to provide adequate environmental protection by law.	Situational, but typically moderately secure.
Post-gecekondu	Permanent.	Potentially dilapidated, but of relatively recent construction and typically in fair condition.	Secure.
Apartmankondu	Permanent.	Potentially dilapidated, but of recent construction and typically in good condition.	Secure.
Varoş	Questionable.	Typically in disrepair and dilapidated.	Questionable.

Discussing Sultanbeyli as a neighborhood unit is difficult. Sultanbeyli is a district composed of many neighborhoods, or *mahalles* (quarters), and spans a roughly 50 km^2 area which is about 20 times the size of Kibera. While Sultanbeyli dwarfs Kibera and has more opportunity to statistically distribute its population, the density of Sultanbeyli is significantly better than that of Kibera at 6,000 persons per km^2. This disparity is shown in Figure 5.6, an aerial photo of Sultanbeyli. As Figures 5.2-4 show, Sultanbeyli is a typical urban setting of good visual character, nearly indistinguishable from the formal urban areas of Istanbul.

Figure 5.6: Aerial photograph of Sultanbeyli[31]

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[31] Taken from google.com/maps at a scale of 1"-200'

Concluding Comments

The living conditions of Sultanbeyli as discussed within this case study differ starkly with those of Kibera. The acceptable access to water and sanitation, and the quality housing units, neighborhoods exhibited within Sultanbeyli are well within the acceptable urban living conditions laid out in the conceptual framework discussed in the literature review of this report. Additionally, this particular case study highlights a significant difference in the relationship between Sultanbeyli's residents and the overarching administrative bodies in Sultanbeyli as compared to the same relationship in Kibera. Through the protections provided to gecekondu housing, the political representation, and the general level of accountability Sultanbeyli's administrators must possess is a key difference in how living conditions manifest within a community.

CHAPTER 6 - Conclusions

As characterized in Chapters 4 and 5, Sultanbeyli and Kibera are distinct communities with essentially unique conditions, challenges, and concerns. Sultanbeyli is a community on the rise with respectable infrastructure and public services, secure land tenure, and administrative legitimacy. Kibera, on the other hand, is a community that struggles with sanitation, overcrowding, political and administrative corruption, and insecure land tenure. As this case study shows, it is clearly naïve to assume that all informal settlements are of the same settlement typology. Rather, informal development manifests in many, quite different ways according to conditions and processes at work within each settlement. However, despite this essential uniqueness, this report's case study of Kibera and Sultanbeyli does indicate some similarities in the nature and development of the two settlements. Moreover, through identifying these similarities and differences, this report gains significant insight into the processes driving informal development, and how factors affect the manifestation of this development. Accordingly, Chapter 6 of this report first discusses the key similarities in the development of Kibera and Sultanbeyli. In identifying these similarities, this report outlines initial indications of what conditions and factors appear to aid in the driving and continued proliferation of informal development. Furthermore, this will contribute to the knowledge base that will eventually provide planners and social scientists with the tools to proactively assess specific areas' likelihood to develop informally based on the conditions they observe. Similarly, this report also attempts to identify the key differences between Kibera and Sultanbeyli. In examining these differences, this report's case study highlights how three specific factors—the relationship between the residents and the administration, land tenure security, and settlement context—affect living conditions within a settlement. Understanding the relationship between these factors and how informal development manifests provides planners and social scientists with a clear view of how to efficiently intervene in informal development to combat slum living conditions. There is significant inquiry and investigation that remains to be done to definitively confirm these findings and their applicability to informal development as a whole, as opposed to just a comparison of Kibera and Sultanbeyli. However, these findings are significant enough within the context of this report to allow for a hypothetical application to the larger concept of informal development. Ultimately, this chapter presents the trends identified within this case study in the

context of how they can be scaled-up, and applied to informal development as a whole, while recognizing that they are initial findings. Both the similarities and differences of Kibera and Sultanbeyli are discussed within this chapter according to larger scales, examining the origins of informal development and examining the determinants of living conditions, respectively.

Examining the Origins of Informal Development

A key function of this report's case study is to attempt to identify what factors aid in the driving and continued proliferation of informal development. To this aim, two specific trends exhibited in both Kibera and Sultanbeyli provide a strong indication of being key factors in fueling informal development. Firstly, large and rapid population influx plays a key role in the development of both Kibera and Sultanbeyli. Secondly, in combination with this population influx, the capacity of the formal housing and land markets in both Nairobi and Istanbul could not provide for their populations. An excellent example of how the formal framework and development interact is explained in *Do Urban Land Regulations Influence Slum Formation?* (2006). In their report, the authors plainly indicate a key assumption in their research is that when residents can't enter the formal housing/land market, housing demand is met via informal solutions (Lall, Wang, & de Mata, 2006). This means that there is a direct connection between the growth of informal development and a settlement's formal housing options: as formal options decrease, informal development increases. Interestingly, this report's case study illustrates that there are many, less obvious means, in which the formal framework and housing access is inadequate. The early booms in Kibera's development occurred outside Nairobi's city limits as rural populations migrated to Nairobi for work. Because the British Colonial Authority restricted movement in and out of Nairobi, the majority of this settlement occurred unregulated outside the city limits. In Sultanbeyli, as the populations of Istanbul swelled in the 1980's, the traditional shared title land ownership system held over from the Ottoman Empire was nowhere near nimble enough to keep pace with the population changes. Coupled with the administrative protection provided to *gecekondu* settlers, housing and land titles became increasingly convoluted and irrelevant. In this way, the large growth in informal development that established both Kibera and Sultanbeyli originated in a fundamental disparity in what the

respective formal frameworks of each area could, or was willing to provide and what was necessary for the area.

This case study supports previous research observations that access to and the availability of formal housing and land in a given area is the key factor driving informal development. Furthermore, this case study also highlights that informal development occurs when access to and the availability of formal housing and land is greatly stressed by population influx. Thus, this case study's findings indicate that areas prone to large population influxes and generally inadequate formal housing and land options and access exhibit the key conditions that fuels and proliferates the growth of informal development. As this case study shows, however, this inadequacy may take many forms, ranging from numeric housing shortages to highly politicized ethnic underrepresentation. In the hypothetical application to informal development as a whole, this case study's initial findings allow planners and social scientists to proactively assess areas around the world and determine if the area exhibits a propensity or vulnerability for informal development, and identify if steps can and should be taken to regularize this development.

Examining the Determinants of Living Conditions

While there is merit in fostering understanding of the forces at work in driving and proliferating informal development, it is equally important to ascertain what and how factors affect how this development manifests. This case study paints a picture of two communities, linked by a common definition, that exhibit distinctly different living conditions. Accordingly, this case study is particularly concerned with attempting to understand what factors affect living conditions, and how they affect them. Through exploring the differences between Kibera and Sultanbeyli, three key factors affecting living conditions emerge: the relationship between the residents and the administration, land tenure security, and settlement context.

Diagramming the relationship between the administration of a settlement and its residents is extremely important in understanding how the two parties interact and how this affects development. This report's case study of Kibera and Sultanbeyli highlights the impact of this relationship on living conditions. To characterize the relationship between residents and administrations in both Kibera and Sultanbeyli, it is exploitative and collaborative, respectively. In Kibera, the administrative structure is confusing and inefficient, and all too often, no one

knows what agency or administrative body is responsible for providing a given service to Kibera. As an unofficial settlement, however, there is little recourse for not providing these services. Furthermore, the convoluted and overlapping administrative entities and lack of accountability creates a government that is rife with corruption that in turn, engenders a hostile relationship between Kibera's residents and administrative officials. Recently, aspiring politicians have begun to recognize Kibera as a heavily concentrated voting bloc; most notably spearheaded by the efforts of current Prime Minister Raila Odinga, whose parliamentary district of district of Langata encompasses Kibera (Kenyan premier leads Nairobi slum dwellers in relocation exercise, 2009). Efforts like KENSUP, highly touted by the current administration and Prime Minister Odinga, are in constant danger of exploitation for political posturing that undermines their effectiveness. In short, Kibera is only selectively relevant in the administrative bodies' eyes: good for votes, but a forgettable inconvenience otherwise. Geoffrey Barasa Wafubwa, Kibera resident, provides a striking summarization about the relationship between Kibera's residents and the overarching administrative bodies: "The government claims the land is forest. When they come to ask for votes from the forest, we are suddenly changed from trees to people. But legally, we are just trees" (Neuwirth, Shadow Cities, 2006).

Conversely, Sultanbeyli's residents enjoy a significantly better and more collaborative relationship with the administrations of Sultanbeyli, Istanbul, and Turkey. Early on, politicians recognized the value of mobilizing and concentrating a large population like Sultanbeyli toward an officially recognized municipal entity. The administrative structure in Turkey allows communities to mobilize and apply to become recognized municipal entities, and this opens the door to many benefits that unrecognized communities cannot receive, most notably, funding, services, and powers, including the right to collect taxes supported by a legitimate and legally defensible judicial branch. Furthermore, this case study of Kibera and Sultanbeyli underlines the importance of trust and *quid pro quo* in the relationship between a population and the administrative bodies that oversee it. In a collaborative environment, Sultanbeyli's residents give the administrative entities votes, money, and license to operate contingent upon representation and confidence that the administrations have the community's best interests in mind. Part and parcel with these concessions, the residents of Sultanbeyli hold the administrations accountable by what they actually do for the community. As this relationship prospers, the community prospers, and this is reflected in living conditions.

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The second key factor affecting living conditions within an informal settlement is land tenure security. This case study of Kibera and Sultanbeyli reinforces the view of current literature that places a lot of importance on the role of land tenure security in the determination of living conditions. Both residents of Kibera and Sultanbeyli have modicums of formality in their land tenure systems. In Kibera, the power to give permission for temporary structures resides with local chieftains in the Provincial Administration. In Sultanbeyli, residents can buy *tapu,* documents that are similar to deeds or title. Where these two options differ, however, is in the security that each provides to the residents. As illustrated in this case study, Kibera's residents are at the mercy of the agents of the Provincial Administration. Though these residents have permission to build temporary structures, the Provincial Administration as well as the Nairobi City Council and the Kenyan government can evict the residents and destroy these structures at will. This position has been reinforced by periodic attempts to destroy the settlement throughout its history. This lack of security has a profound effect on the living conditions of a settlement. This sentiment is best reflected in the comments recorded by Robert Neuwirth in his time in Kibera. When asked what would happen if he was secure in the knowledge that he would not be evicted, Michael Owaga Obera, Kibera resident, responded with: "You'll never believe it. You come back in five years and you won't believe it. I'll make sure you feel somebody is living here" (Shadow Cities, 2006). Ultimately, the connection between land tenure and living conditions is anchored in a firm belief in the oft-discussed "self-help" attitude of slum peoples. While this view may be tainted by romanticism, it is supported by an observable trend that is exhibited in this case study; insecure tenure is a strong deterrent to any "self-help" improvements for fear of losing that investment, as is the case in Kibera. Securing land tenure removes the barriers to incremental, "self-help" improvements to structures and infrastructure. As the ever-evolving and improving *gecekondu* of Turkey show, widespread incremental, "self-help" improvements have the potential to significantly elevate the living conditions of an informal settlement.

The third key factor in affecting living conditions, as evidenced by this case study of Kibera and Sultanbeyli, is context. A quick comparison of economic contexts drawn from this case study of Kibera in Sultanbeyli illustrates how context affects living conditions in informal development. As Table 6.1 shows, the Gross Domestic Products (GDP) of both Nairobi and Kenya represents a fraction of the respective GDP's in Istanbul and Turkey. Moreover, when

rationalized by population, the GDP dollars per person in Nairobi is $10,000 less than that of Istanbul, though Kenya is only slightly lower than Turkey in the same comparison. What these figures indicate is the global economic position of these larger entities, particularly highlighting the general disparity in economic production and wealth in Nairobi and Istanbul. While these GDP figures are far from perfect as a measure of wealth, it creates an important distinction between the Sultanbeyli and Kibera contained within these larger administrative entities. Istanbul and Turkey are comparatively wealthier than Nairobi and Kenya, and this undoubtedly plays a part in shaping the economic conditions within Kibera and Sultanbeyli. Furthermore, these economic conditions play a major role in determining how informal development manifests. Of course economic conditions aren't they only context-related issues that bear on a settlement's development. Cultural roots in nomadic trading, historical exposure and experience with market economic constructs, and levels of cultural isolation are all examples of how essentially unique contexts for a given settlement bear heavily on living conditions and how a settlement develops. It is therefore a key realization brought to light by this case study that researchers must recognize and temper any sweeping conclusions about informal development within the unique context of the settlement(s), so as not to attribute or fail to attribute significance to specific pieces of a study's findings. Furthermore, carefully weighing context may point to additional factors that are contributing to or amplifying a given trend observed in one particular settlement. In the case of Kibera, these figures provide an initial indication that the disparity between wealth in urban and rural areas is a large driving factor in the proliferation of informal settlements within Nairobi, and in turn, Kibera. This is in keeping with the Harris-Todaro model of rural-urban migration discussed in Chapter 2.

Table 6.1: Economic Context Comparison[32]

Place	GDP (in US Dollars)	Population	GDP/Person
Nairobi	$12,000,000,000	3,138,369	$3,824
Istanbul	$182,000,000,000	13,120,596	$13,871
Kenya	$29,800,000,000	39,802,015	$749
Turkey	$614,600,000,000	74,815,703	$8,215

Implications on Interfacing with Informal Development

As global urbanization trends continue, planners and social scientists will have an increasingly large responsibility to efficiently and sensitively address informal development. This case study provides key insights that allow for initial conclusions on the origins of informal development and the factors affecting living conditions within informal settlements. In identifying the key similarities between Kibera and Sultanbeyli, particularly regarding the origins of informal development, this case study provides essential insight into what conditions create informal development. This understanding, while still nebulous, provides planners and social scientists with a basic metric with which to try and identify areas in which these conditions exist. In essence, this research provides planners and social scientists with preliminary tools to begin addressing the growth of informal development proactively and to gauge how and if planners should intervene to regularize development.

Identifying the key factors accounting for the different manifestations of informal development provides an initial framework for how planners and social scientists can effectively address living conditions in existing informal development. By ultimately recognizing how these key identified factors affect living conditions, planners and social scientists can focus their efforts in areas in which they will be most effective. While many planners and social scientists are largely concerned with slum-upgrading, it is a process that must be approached sensitively.

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[32] Population counts retrieved from respective country censuses. Country GDP's retrieved from The World Bank Development Indicators (2009). City GDP's from Price Waterhouse Cooper's UK Economic Outlook (2009).

There are many cultural customs and deeply rooted personal connections to communities and homes, and outside influence is rarely welcomed. As global aims such as the Millennium Development Goals continue, planners and social scientists must learn to interface with informal settlements effectively, efficiently, and sensitively. In recognizing that an accountable, trustworthy, and collaborative administrative structure is extremely important for improving living conditions, planners and social scientists can focus on building administrative capacity. They can examine where the administrative structure is currently failing, and work toward addressing these issues. Similarly, with the knowledge that land tenure security is key for developing improved living conditions, planners and social scientists can develop sensitive ways in which to secure land tenure and remove residents' barriers to incremental, "self-help" improvements. This research also underlines the importance of recognizing and embracing the essential uniqueness of informal settlements. Though certain trends are exhibited throughout informal development, the factors and conditions motivating these trends must be considered within the context of the individual settlements so as not to attribute or fail to attribute significance to a study's findings. It is therefore important for planners and social scientists to recognize how this context affects living conditions in a given settlement and tailor their efforts with this context deliberately in mind.

In summation, this exploratory research provides a holistic view of how two informal settlements originated, and how different factors affect each community's living conditions. Through these insights, this report develops initial conclusions about the conditions motivating informal development, how different factors affect living conditions in informal settlements, and what implications this relationship has for planners and social scientists. The case study contained within this report highlights specific factors—the relationship between the residents and the administration, land tenure security, and settlement context—and how each affects living conditions within a settlement. The initial findings of this case study indicate that planners can efficiently intervene to combat slum living conditions through helping to build administrative capacities, helping to develop secure land tenure, and/or addressing unique contextual issues affecting essentially unique settlements. But ultimately these findings must be tempered by the limitations of this study. As is the nature of both exploratory and explanatory case study, the conclusions of this case study, as applied to the larger concept of informal development are best described as testable hypotheses. This general and nebulous understanding of the origins of

informal development and the determinants of living conditions in informal development provide a strong base upon which planners and social scientists can elevate the collective understanding of informal development. This research provides suggestions as to how planners and social scientists can revise programs and efforts to sensitively and effectively interact with informal development in an increasingly informally developing world.

CHAPTER 7 - References

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