At Kamukunji public grounds in the Kibera slum in southwestern Nairobi, a man walked up to me and introduced himself as George. It was noon on a December day in 2010 and the grounds were filled with people. George took out his mobile phone and showed it to me. This was no surprise; after spending a few days in the slum, I had met people who told me they lived on the street but owned or used mobile phones. He explained how the phone was vital to his livelihood and that of his family. I asked him what he thought about the many non-governmental organization (NGO) events taking place in the slum, a question to which he responded “most people in Kibera do not trust barazas [public meetings] because they think someone has been paid to do it. With this”—he held up his phone—“we ourselves [sic] can do the things.”

The next week, I met with the Kenyan Permanent Secretary of Information and Communication, Dr. Bitange Ndemo, and asked him about the government’s vision for Kenya. Ndemo responded that he wants every Kenyan to have access to information and communication technologies (ICT): “For every 10 percent [of growth in ICT access], you grow the economy by 1.5 percent [of] GDP.” In this way, he explained, Kenya would develop as an ICT hub for East Africa, which would strengthen and improve the Kenyan state. Achieving this goal required the participation of all Kenyans and a change in the national work ethic toward “a Version 2.0 of our culture,” he stated, adding that this required integration and discipline.

These stories show two very different perspectives on what mobile phone technology means for Kenya and Kenyans. For

Emil Graesholm graduated from the University of Cambridge in 2011 where he studied political science. He currently works as a research assistant at the University of Cambridge’s Centre of Governance and Human Rights.
George, it creates business opportunities and gives him autonomy in everyday life. He does not trust the authorities nor does he believe that they can help him. For Ndemo, ICT fosters economic development and integrates Kenyans into a political community. It is a tool for ensuring the future of Kenyan state development. While both point to the development potential of ICT, the conflict between the goals of autonomy and integration, between slum and government office, suggests the need to reappraise our understanding of the influence of technology on state-society relations in development contexts.

Mobile communication technology potentially lowers barriers to participation in public life, increases the intensity and range of communication, and alters the link between citizen and government, creating alternative and disseminated forms of governance, such as local security and private service delivery. Yet this same potential provokes questions about the role of ICT. What forms of participation emerge, who is participating, and for what purpose? What is the significance of slum inhabitants providing their own services? For what political purpose, if any, are mobile phones used? This study uses these questions to interrogate the Kenyan state building project, the role of NGOs, and the informal political dynamics of urban slums. Its central concern is how mobile phones influence governance networks and participatory politics in Kibera.

Existing literature on the impact of mobile phones is of limited use as it tends to build on normative assumptions and focus on particular outcomes, despite an ongoing debate between optimistic and skeptical views on the effects of ICT. This paper takes a different approach in looking at the politics behind the use of mobile phones, specifically examining how development discourse and Kenya’s history have shaped the ways that agents of governance engage with Kibera. Based on field research conducted in December 2010 examining mobile phone use and the politics of slum governance, the paper makes two connected assertions regarding the role of ICT in the relationship between Kibera, NGOs, and the Kenyan state.

First, mobile phone technology amplifies social interactions
in reach and speed, making existing social networks more visible and intense. Providing its own services and security using mobile phones, the urban slum community of Kibera creates ad hoc governance structures outside formal networks, resulting in a stronger community but also marginalizing community members from the context of state-facilitated socio-political life. With service and security delivery important public goods provided by the state, informal slum governance reduces citizen-state contact and results in marginalization, as local alternatives to formal governance emerge and service delivery in inaccessible slum areas fails.

Secondly, independent service delivery and security provision pose challenges to the development and democratic consolidation of the Kenyan state, which suffers from corruption and political apathy. Together, state institutions and NGOs form a formal governance network with overlapping yet occasionally conflicting agendas. Agents of the formal network operate based on established administrative rules that exist within the official rule of law. Regarding the use of ICT, both sets of actors seek greater participation and improved service delivery to legitimize their authority through input and output legitimacy, respectively, and to integrate Kibera residents into political processes by intervening in the slum. They see Kibera as a complex space that needs to be molded according to a particular logic in order to be governable. Governability involves standardization and rationalization of social and natural reality “into a legible and administratively more convenient format,” which results in a particular construction of meaning and an administrative understanding of the world that permeates the governance network. Legibility refers to the ability of an authority to obtain and construct crucial information about subjects’ social and natural environment in order to exercise power. The space of the slum must become legible, and new ICT provides the tools with which to do so. By providing their own services and security, and by challenging integration attempts on the part of the state, Kibera residents resist being made legible and governable; simultaneously, formal authorities have political incentives to act against this process and use ICT to assert control. Thus, new technologies enable
both integration efforts and the process of marginalization.

This study first reviews existing literature on the impact of mobile phones on governance and participation, highlighting limitations of the current literature. It then details the methodology used in field research. The recent political history of Kenya, and ICT developments, are explored, and the Kibera slum is introduced in greater detail. The study then discusses the dynamics of mobile phone usage in Kibera in relation to policies and projects of the formal governance network and introduces arguments by James Scott concerning state optics and state-society relations, which provide valuable tools in understanding ICT usage in Kibera. Finally, the paper presents implications for the formal governance network resulting from the politics of ICT adoption in marginalized communities.

TOWARD A NON-NORMATIVE FRAMEWORK OF ICT

ICT includes electronic hardware and software that facilitate the production, distribution, and consumption of information through networked communication. Research for this paper was focused on mobile phone technology and how it interacts with and complements radio and Internet communication. Mobile technology is a relatively understudied area compared to the Internet;\(^6\) moreover, an examination of multiple technologies creates an opportunity to understand how new platforms interact with old ones, as illustrated by the phenomenon of radio waves broadcasting over mobile phones, and thereby contextualize new technologies.\(^7\)

New ICT, such as mobile phones, contribute to the communicative space of the “networked public sphere.”\(^8\) This common space is an information environment characterized by near elimination of communication costs and by the potential for many-to-many communications, rather than the one-to-one (interpersonal) or one-to-many (mass) communications which characterize “traditional” media like television or radio.\(^9\) In a networked society, interactions are among diverse demographics and social connections switch between multiple networks, as boundaries become more permeable
and hierarchies become flatter and more complex.\textsuperscript{10} Network society today “cannot be understood or represented without its technological tools.” Indeed, technology augments and amplifies processes of change taking place within societies.\textsuperscript{11} Omnipresent ICT has become a defining feature of modern society.

The following section provides an overview of the literature on the influence of new ICT, particularly mobile phones, on governance and participation as political goals, introducing a theoretical framework and methodology to address some of the limitations of this body of work. The argument that ICT has an impact upon politics is not new;\textsuperscript{12} yet the precise nature of the effects is contested.\textsuperscript{13} Research on new ICT in Africa remains limited and has only recently addressed development.\textsuperscript{14} Nevertheless, literature on mobile phones, political participation, and governance is growing, with several clear positions emerging in the debate.

Debates in the ICT Literature

An optimistic position, embodied in the term ICT for development—ICT4D— tends to view new ICT as a solution that enables economies and politics to leapfrog into new forms.\textsuperscript{15} This position involves the view that ICT enables people to transform their lives by lowering barriers to information and increasing communication access, as well as offering integration into the democratic, participatory sphere by lowering barriers to entry in deliberation.\textsuperscript{16} ICT allows for participation in public processes and adds new dimensions to the local and global public sphere.\textsuperscript{17} Erik Bucy and Kimberly Gregson view widespread political participation as legitimizing authority and functioning as an instrument of consent.\textsuperscript{18} For these authors, a corollary benefit of this interactivity is efficient service delivery and accountable governance. When citizens have easier access to information concerning their government and faster ways to communicate, the pressure on government and public institutions to fulfill their obligations increases. This fosters transparency, reporting, awareness, and deterrence.\textsuperscript{19} Increased visibility has an impact on decision-making and service delivery,
which benefits service recipients. Supporters of this stance argue that mobile phones have the potential to promote deliberative participation and good governance, and can be used in development contexts for that purpose.

These “optimist” arguments have shaped development practice through ICT4D. The 2002 World Bank ICT strategy paper suggests that mobile phones empower and improve the well-being of poor people while enhancing the efficiency and transparency of the public sector. Similarly, the 2011 World Bank approach paper advocates the use of this “unprecedented development opportunity” to help countries leapfrog toward better service delivery. This approach tends to examine particular outcomes of new ICT use that may enhance democratic participation and good governance. However, it appears to build on a functionalist understanding of mobile phones as a tool of social change and contains an element of technological determinism, focusing on the inevitability of transition toward particular development goals such as service delivery and transparency, which seems removed from political realities.

In response to the arguments outlined above, some authors take a skeptical position, arguing that power relations do not necessarily change with technology and that issues of access, control, and power are unchanged. Pippa Norris asserts that new ICT reinforces existing patterns of social stratification, creating a “digital divide” between those with access and ICT-literacy, the “information-rich,” and the “information poor,” who do not have these attributes. M.F. Rice contends that ICT growth has implications for global inequality as well as rural/urban and rich/poor divides within countries, as infrastructure and access are centrally controlled. A second line of argument focuses on the ways in which ICT may be used for control and surveillance. These studies have tended to focus on repressive regimes and how government authorities use ICT to monitor and control their populations, through, for instance, mobile phone tracking and monitoring. Mobile phones can be an obstacle to deliberation and a tool for repressive governance. Moreover, mobile phones have the potential to be abused on the ground. Because ICT tends to be more decentralized
than radio or television, it is also less centrally regulated than traditional media, enabling harmful messages to spread quickly in times of crisis. An example of this darker side of ICT is when mobile phones were used to promote hate speech and mob violence in the wake of the Kenyan election of 2007–08, as raised by Joshua Goldstein and Juliana Rotich. The skeptic’s position on ICT therefore questions if and how mobile phones produce outcomes that improve democratic participation and good governance.

Developing a Non-Normative Research Framework

Much previous literature focuses on the potential outcomes of ICT and thus seeks to provide policy advice for using ICT in furthering development goals, assuming a positive causal relationship between ICT and development. Other authors emphasize the problems of power inequalities that underpin ICT use. Yet even the proponents of the skeptical position appear to focus on the barriers to these goals, while not questioning the goals themselves. All place an implicit value on social change, democratic practices, and development, and tend to fall within a development discourse that posits a deterministic view of transition as leading from "underdevelopment" toward "something better." This literature, and the ICT4D agenda, evaluate what ICT should do and assess technology accordingly.

The normative discourse around ICT merges with development practice and, as discussed in the following section, has been adopted by the Kenyan government. However, some authors call for a less value-laden approach to understanding the political interests involved. When exploring the politics behind change, taking a normative standpoint from the outset can blur and obscure underlying power relations. The question is who defines what the outcome should be, and why. Technology permeates and defines society; the two cannot be separated. This paper focuses on what ICT does and how it is used for political purposes. As such, it is necessary to adopt a different framework.

Isolating the social characteristics of mobile phones with-
out presupposing socio-political outcomes may show how ICT impacts social relations, thus providing a useful framework with which to conceptualize the Kibera case. Collective action and network society theory suggest mobile phones integrate existing social networks.

Mobile phone access reduces barriers to collective action and social groups.\(^{34}\) Mobile phones decentralize the production, consumption, and distribution of information, while the spatio-temporal immediacy of communication it allows enables greater ease of participation in the public sphere. It does not necessarily follow that participation levels increase: only that such potential exists.\(^{35}\) Mobile phones also allow for micro-contributions to collective action across structural barriers, as every participant can function as a producer, distributor, and consumer of information. Aggregated contributions build up in size and intensity of interaction, making the value of the social network to each individual increase exponentially.\(^ {36}\) Furthermore, mobile phones contribute to reproducing a social network through greater connectivity. They allow for a decentralized and non-hierarchical organization of social networks,\(^ {37}\) which enables the formation of spontaneous communities and action.\(^ {38}\) The ease of decentralized group formation amplifies existing social structures and behavior. The Kibera case presents us with an opportunity to test how these hypotheses fare in the field.

**METHODOLOGY AND FIELD RESEARCH**

The field research for this study sought to explore how mobile phones were used in Kibera and how key stakeholders in the ICT field viewed its political potential. Research methods included semi-structured interviews with government officials, NGO managers, and Kibera residents, as well as ethnographic observations on information culture and communication flows in Kibera. Semi-structured interviews allow for in-depth exploration of issues important to respondents. The interviews on the ground in Kibera were set up with the assistance of a local radio station, PamojaFM.
Interview subjects representative of different age, employment, and tribal groups were selected. Interviews were transcribed by hand. As an information hub for the slum community, PamojaFM also aided in observations at community focal points where people meet to exchange information, such as cafés or community centers. The interviews with managers and officials were audio-recorded, with interview subjects selected on the basis of their influence in the field of ICT. These subjects included the Permanent Secretary of Information and Communication, officials of the Communications Commission of Kenya (CCK), and leaders of NGOs operating in Kibera.

All interview subjects were allowed to shape the conversation and draw on their own experiences, providing a picture of the discourse surrounding ICT and motivations behind decision-making from the perspectives of a variety of actors. This method also moved away from a focus on the transformative capacity of ICT by avoiding predetermined hypotheses. Instead, field research sought to understand how ICT is used in political contexts and how it is used to realize particular goals. This openness resulted in rich, albeit disparate, material that points in many directions. While officials focused their responses on issues like improving access to services, public sector efficiency, and citizen participation, ICT users in Kibera emphasized the autonomy from authority and greater ease of everyday social interaction afforded by ICT. They also noted many Kibera residents depended economically on this new technology. A discrepancy has emerged between the complexity and richness of public and political life in Kibera and the administrative simplicity with which both state institutions and NGOs approach the same reality.

This theoretical and methodological framework provides a way to look at the intersection of mobile phone technology, participation, and governance in a Nairobi slum. It is impossible to understand the politics of ICT in Kibera without first getting a grasp of the existing political landscape and the history that has shaped and maintained it.
Integratory Processes, Political Space: Contextualizing Political Agendas in Kibera

Kenya’s history of political corruption has led to calls for state consolidation from within, a policy that would involve the state pursuing governance reform and participatory policies while adopting a development discourse. Recent developments in ICT have presented new opportunities for this agenda to be realized. The Kenya African National Union (KANU) party, led by Daniel arap Moi, embraced corruption and political repression in its four decades in power, keeping the opposition divided to maintain power. In a country with forty-two ethnic groups, elections became ethno-regional censuses, making mobilization by ethnicity a potent political strategy. In 2002, KANU was defeated. Mwai Kibaki’s National Rainbow Coalition (NARC) won the election on a platform of dialogue, anti-corruption initiatives, and power sharing. This change in regime resulted in high expectations for accountable governance and democratic participation. However, Kibaki abandoned these commitments, marginalizing coalition members and joining with KANU to consolidate power. Ethno-regional politics became the mode of governance once again and anti-corruption efforts fell apart, resulting in widespread political disillusionment with the Kibaki regime.

More recent Kenyan political history builds on a political culture prone to ethno-regional competition and corrupt institutions. After a contested general election in 2007, Kibaki was sworn in for a second term despite opposition from the Orange Democratic Movement (ODM). Violence erupted across Kenya and morphed into aggression between ethnic groups, leaving over one thousand dead and six hundred thousand displaced. This heightened social climate further raised demands for accountable governance and peaceful participation.

Introducing competitive elections before reforming governance institutions, as well as the lack of conviction in implementing these reforms, may have contributed to Kenya’s political instability. Regardless, the current Kibaki government’s agenda is
shaped by aims like democratization and “good governance” and “participation” that are widespread in global development discourse.\textsuperscript{51} “Good governance” entails accountability, sound public sector management, and transparency.\textsuperscript{52} However, this notion of rule reduces governance to technocratic efficacy and measurable outcomes; it cannot help in assessing how a governance network makes sense of the outside world. In contrast, this paper explores how the construction of meaning permeates a governance network and the ways in which administrative logic shapes how formal governance agents describe the world, as well as how the public good is defined and pursued.\textsuperscript{53} In development discourse, “participation” aims to recognize and enhance local and individual realities, becoming key to development practice.\textsuperscript{54} Integrating communities creates a political environment where the decisions taken are made with the consent of the governed. Participation is regarded as evidence of a functioning pluralist democracy, and, as such, has become a central goal for both NGOs and the state in Kibera.\textsuperscript{55} However, participatory initiatives are often criticized as an external top-down process imposed on communities to legitimize an organization or project. Participation becomes a means to an end rather than an end in itself.\textsuperscript{56} This paper approaches participation as a legitimizing project and integrative instrument used by political actors. Nevertheless, it must be conceded that the Kenyan progressive political elite do push for the consolidation of Kenyan democracy with the understanding that this can only occur by integrating Kenyans in political processes and pursuing good governance.\textsuperscript{57}

With new ICT, the potential to fulfill this goal has increased. The ICT4D agenda has thus merged with the agenda for good governance and participatory democracy adopted by the Kenyan government.\textsuperscript{58} Indeed, the official vision is for ICT to “facilitate sustained economic growth and poverty reduction; promote social justice and equity; mainstream gender in national development; empower youth and the disadvantaged groups; stimulate investment and innovation in ICT; and achieve universal access.”\textsuperscript{59}
ICT Hope

Such hope is not without cause, for the Kenyan ICT sector has greatly expanded over the past decade. As the political climate became more relaxed after 2002, the ICT sector was liberalized by the government, partly through privatization. As prices fell, mobile phone use surged. In 2005 there were 5.3 million mobile phone subscribers in Kenya. By September 2010, that number had grown to twenty-two million subscribers. This gives Kenya a mobile tele-density of 55.9 percent, well above the African average.

In addition to an increase in the sheer number of mobile phone users in Kenya, successful mobile phone applications and businesses have emerged. The Safaricom company M-PESA (short for mobile pesa, the Kiswahili word for money), launched in 2007, has introduced a mobile phone application that enables on-the-go financial management, thereby contributing to financial security. In 2009, a daily average of $1.96 million were transferred; by January 2011, thirteen million customers were using the service. Another example of innovation in the ICT sector is Ushahidi, a company that uses crowdsourcing technology to gather information through short messaging service (SMS) reports. This information is subsequently categorized and mapped online in real time. The platform was developed during the 2007–08 post-election period to file reports on violence and police action and has since been used worldwide.

Both services are extensively utilized in the Kibera slum. Once adopted, these technologies fit into existing social practices. In Kenya, radio is the primary source of information for the public with an 87 percent penetration rate, a number now matched by urban mobile phone use. Next to radio, word of mouth is the most frequent mode of receiving information. Information disseminated through opinion leaders, information hubs, and personal networks tends to be highly trusted. Weekly access to mobile phones is at 94 percent in urban areas and 83 percent in rural areas. Youth, men, and the highly educated are the most frequent users of mobile phone technology, but even in groups with limited access, at
least half are regular users. The most common use of mobile phone technology is sending and receiving SMS messages, primarily for everyday social purposes, but also for managing finances through M-PESA or contacting larger community groups. Thus, the potential for harnessing ICT to development goals has increased with the growth of the sector. The Kibera community stands to benefit greatly from this growth.

The Challenge of Slums

When trying to realize the goals of participatory politics and good governance, urban slums such as Kibera present a particular challenge. A slum may be defined as “a residential area which has developed without legal claims to the land . . . [and] as a result of their illegal or semi-legal status, infrastructure and services are usually inadequate.” Kibera covers a large area southwest of downtown Nairobi. It is densely populated, composed mainly of unregistered, often homemade shelters with poor access to sanitation and water facilities. The majority of the slum’s housing is owned by local landlords, who rent out their property to slum residents.

Data on mobile phone use in Kibera have shown a high monthly migration flux, as almost 50 percent of inhabitants are moving elsewhere or to other parts of the slum. The 2009 official census showed 170,070 slum residents, yet the United Nations Human Settlements Program (UN-HABITAT) estimated a total population of six hundred thousand to one million inhabitants in 2007. Because of these estimates, Kibera has received more attention than other slums such as Mathare and Korogocho. Such fluctuations in migration point to the difficulty of obtaining reliable data about the slum, data necessary to provide a basis for a governance plan.

This dynamic reality is no obstacle for the spread of technology, with mobile communication rising sharply in Kibera. Like in other urban areas, there is relatively easy access to mobile phones and the Internet in Kibera, as well as newspapers, television, and radio. Radio and mobile phones are the preferred modes of com-
munication, partly because of their lower costs and partly because they merge well into existing social practices while avoiding the structural problems posed by other media. Newspapers, television, and Internet surfing are too expensive for many Kibera residents, and must therefore be accessed in central community hubs. In contrast, every resident I met in Kibera either owned a mobile phone or had access to one. A homeless person explained how he occasionally prioritizes mobile communication above shelter and food.75 Residents cited word of mouth channels as their primary or most trusted source of information. While external sources are trusted less, the local community radio PamojaFM is highly valued.76

Kibera has found itself embroiled within Kenya’s national political struggles, with Prime Minister Raila Odinga of the ODM the current Member of Parliament (MP) for the area. After the 2007-08 disputed election, violence and plunder spread quickly throughout the slum, with ethno-political support bases as the main targets. A result of these patterns of violence is more distinct spatial separation of ethnic groups in Kibera than before the election.77 The director of a women’s center in the slum told of neighbors turning against each other during the post-election violence.78 This recent conflict has added to outsiders’ perception of the slum as a chaotic social space that must be ordered to improve the lives of slum residents. As the slum is often inaccessible to state institutions, NGOs play an important role in working toward this goal.

Since the 1980s, NGOs have proliferated in Kenya.79 Although the exact number is uncertain, an estimated six thousand to fifteen thousand NGOs work in Kibera alone.80 A mixture of local and foreign organizations, NGOs in Kibera have different budgets, goals, and modes of operation. According to a local assistant chief, not all NGOs fulfill their purposes, yet penetration and visibility are high.81 During the course of my fieldwork, an average of three events were held daily by various NGOs. Despite this, there is a common perception within the community that locals in attendance are paid to participate and NGO projects are externally directed.82 Still, NGOs are particularly necessary in slum areas as they increasingly represent a means to delegate develop-
Vital to service delivery in Kibera, NGOs still face problems similar to those in the way of efforts to instate legitimate governance structures in Kibera.

Besides NGOs, Kibera has a governance structure that combines traditional and state institutions. The slum is divided into thirteen villages. District officers and village chief officials appointed by the state deal with local disputes and everyday administration, in collaboration with village elders and councils. Village elders traditionally hold authority over specific ethnic groups and deal with community issues when called upon by residents or chiefs. However, interview subjects in Kibera expressed distrust not only of the appointed officials, but also of the elders, who are seen as a tribal anachronism, particularly by young people. Still, formal governance networks are frequently used when the need arises. In sum, Kibera has a dense web of institutions and actors, with multiple agents claiming authority within the space of the slum.

Having explored the political context of ICT in Kenya and how key actors have adopted the merging ICT and development agenda to improve the history of governance, this study now turns to two questions concerning the application of ICT. It examines both how ICT is used to pursue the above actors’ goals and how Kibera—a space that presents a challenge to governance and one that is nonetheless deeply embedded in governance networks—contests these goals through informal governance facilitated by mobile phone use.

Informal Governance

Using mobile phones, the Kibera community is able to tackle issues of security and provide services that might otherwise be considered formal governance obligations through informal networks. Water shortages, fires, public violence, sanitation problems, and theft in the slum are frequently handled or contained by residents before police or other authorities reach the affected area, if they respond at all. Easy participation, the role of micro-contributions, and decentralized group formation enable this process. News
spreads through mobile phone networks and emergencies are dealt with by using mobile phones to contact friends and relatives. Formal governance networks often do handle service and security issues, but slum residents emphasized the importance of the informal networks and how they allowed for residents to support themselves without assistance from “outside.”

Lacking information, the slum is difficult for outsiders to navigate. For slum residents, on the other hand, information spreads quickly by word of mouth and through hubs such as the radio station and cafés that disseminate information. Mobile communication increases the volume of communication and the spatial distance it can bridge, thus extending informal practices. The communication process has become significantly faster, enabling residents to deal with problems and provide for themselves with greater flexibility. What emerges are informal, ad hoc governance networks that, on a regular basis, effectively circumvent formal authority to deal with pressing issues.

These informal practices are defined by the language of the agents operating within them. Agents of Kibera’s social network construct meaning in their world in a way that often seems incomprehensible to those on the outside, allowing communication to flow more securely and freely. Common points of reference and the mixture of tribal slang, English, and Kiswahili used create a localized understanding of the world. This blend is also influenced by the language of development used in formal governance networks, particularly by NGOs, with words such as “empowerment” or “participation” strategically employed to obtain services rather than being integrated into everyday language.

The local radio station, PamojaFM, illustrates how this practice interacts with formal governance and existing ICT. As a community hub and center of information, PamojaFM disseminates information both within and outside of the slum. There is a palpable sense of community ownership of the station, and many slum residents participate in on-air debates and interactions. For instance, on the night of my arrival to the station, a girl was raped in the slum. The news spread through social networks and
reached PamojaFM over mobile phones. PamojaFM reporters then confirmed the story by calling people in the area and contacted a relevant NGO which assisted in caring for the victim. In the following days, debates were held about gender rights and women’s security in the slum, with support from several NGO campaigns. In this way, mobile phone technology enhances the capacity of a local information and communication hub like PamojaFM to address problems in the slum, thus also strengthening existing social networks.

Circumvention of formal governance is more than a practical issue. Interviewing young people on mobile phone use and political participation, I asked them how they would get information about their MP or about election campaigns. The response was either laughter or denial of any interest in such questions. No one I interviewed seemed concerned with political affairs and many expressed distrust of authority. Interest in the local community is far greater because residents exhibit both a greater sense of ownership and agency on decision-making in projects as well as greater participation in local events. Although not representative of the views of every Kibera resident, my interview subjects conveyed a sense of political apathy and passive resistance to authority. Given Kenya’s political history, this is not surprising.

Efforts at ICT Integration

When formal governance fails to deliver security and services, it seems the only solution for Kibera residents is to provide for themselves. However, from the point of view of formal governance institutions and civil society actors, using ICT to integrate marginalized and rural communities is essential to a vision of the developmental state’s future. The state seeks to integrate people into the political process in order to improve public perceptions of its governance record. It seeks to do this by producing input legitimacy through increased citizen participation and state consolidation by constructing and gathering administrative knowledge about its subjects, thus enhancing governance capacity, which in turn al-
allows for the provision of services that result in output legitimacy. Likewise, NGOs working within a liberal development agenda seek to demonstrate community participation in their projects in order to legitimate their work and ensure funding from donors.

Government ICT policies are implemented by the Kenya ICT board and the ministry for ICT. These policies are good examples of the way in which the state envisions Kenya and the need for integration. The Digital Villages Project aims to provide broadband connections to remote areas in Kenya at a reasonable price. According to permanent secretary Ndemo, the project will boost the Kenyan economy, increase foreign investment in Kenya's ICT capacity, and encourage Kenyans to participate in public debate. This policy may also be an attempt to integrate every Kenyan into a political community with common goals. Access is not unidirectional, but rather connects Kenyans to a political community to ensure access to formal governance.

Other policies are passive in nature. The e-Government policy and digital records strategy aim to improve government accountability and reduce corruption by making all records digital. The logic is that by putting everything online, important files cannot "disappear" and services are publicly available, which in turn reduces incentives for corruption. This process is underway but has met some resistance within parts of the government elite and bureaucracy. Both these policies can be viewed as aiming to improve good governance and increase participation.

NGOs use ICT to ensure participation and improve governance, both in regard to the state and their own organizations. An example is the Map Kibera project, which has trained Kibera residents to map the slum using GPS technology and to report on events through SMS messages that use the Ushahidi platform. The data is then uploaded to online street maps or the Voices of Kibera blog. This project, one of knowledge-building and dissemination, has been aimed primarily at improving the performance of formal governance initiatives in the slum and providing a map to better understand and navigate the slum. According to a former project mapper, "only people outside Kibera and Kenya use services
Another example of NGO use of ICT is Huduma, an online platform that uses Ushahidi to improve accountability through citizen reporting on public service delivery. This project was launched by the Social Development Network (SODNET) in January 2011 and targets service delivery and corruption by recording how much money government services receive and then asking people to report on-the-ground results, which are then mapped online. Similarly, SODNET’s budget tracking tool provides constituency spending records online for citizens to access. The projects are new and their effects remain to be seen. Yet the logic behind them is that citizen integration not only legitimizes formal governance but also improves good governance, as public sector transparency and NGO efficiency increases.

These projects and policies attempt to build the capacity of the Kenyan state and improve its legitimacy and accountability through participatory ICT tools. Yet it seems that such projects are aimed primarily at assisting or enhancing the formal governance network rather than toward the people these networks attempt to integrate. As such, these external participatory projects are trying to make Kenyans "governable" by integrating them into a political community. The history of Kenyan politics, as well as the developmental focus of "good governance" and democratic participation, has led the formal governance network to pursue this agenda. This project is challenged, however, by the presence of informal governance networks in Kibera that are amplified by mobile phone use. In this way, ICT shapes the way governance and participatory politics are contested, resulting in simultaneous processes of integration and marginalization.

These analyses require caution. It is not simply the use of mobile phones that challenges formal governance, but rather the way mobile phones amplify existing practices and power relations. In Kibera, informal networks emerge in, around, and outside formal networks, both complementing and clashing with them. Most mobile phone use can be classified as everyday social use. Yet it is because of these intensified social networks that informal gover-
nance can take place at the depth and scale with which it operates in Kibera. Mobile phones make informal governance easier and more visible, as networks’ value increases exponentially as communicative activity increases.

Seeing Like a State

Several questions emerge once we step back for a moment and look broadly at the processes facilitated through ICT. How does formal governance deal with the challenge of a slum? Why is there such resistance to state and NGO authority? These questions are better addressed with conceptual tools theorized by James Scott. Scott’s arguments regarding state optics and ungoverned peoples help in understanding the political rationales behind integration processes, as well as why resistance emerges through informal networks.102

According to Scott, statecraft involves the standardization and rationalization of social and natural reality “into a legible and administratively more convenient format.”103 Social environments that require governing must first be molded and assimilated to the administrative logic of state bureaucracy. This can be done through population surveys; standardization of weights, measures, and written language; and city planning.104 The problem of legibility is intricately connected with the spatial distribution and reproduction of Kenyan state power, which in turn is partially determined by the state’s ability to create and sustain its legitimate authority.105 Urban slums are difficult to work with in this context. They do not correspond to the lines on a city map, and navigating them requires local knowledge. Such information is rarely available to formal government authorities, and the social and physical complexity of the Kibera slum effectively renders its residents “invisible” to formal governance networks, which cannot analyze alternative forms of governance through a standardized technocratic lens.

While Kibera is deeply connected with the network practices of NGO and state governance, it is also, in a sense, invisible and situated “outside” of formal networks. Information on people living
there is difficult to gather, complex to understand, and thus problematic to act upon. Although exercised through local networks, the complexity of the social bonds, local language, and physical organization of the slum cannot be mapped onto the administrative grids used by formal authority. Consequently, the slum is perceived by both NGOs and the Kenyan state as messy and complex. When formal authority tries to operate within and read this space, any “designed or planned social order is necessarily schematic; it always ignores essential features of any real functioning social order.”

Making the slum legible requires tunnel vision that ignores the unwieldy reality by selecting one policy on which to focus energy and through which to exercise authority.

In light of Kenyan history, government and NGOs have focused on strategic positioning to improve the governance record and consolidate democracy, thereby legitimizing power. To pursue this project, formal authority needs crucial information about its subjects, such as social maps and metrics of the slum terrain. Integrative and participatory ICT can assist with these goals and provide otherwise inaccessible information by providing means for citizens to report on and map their own social space. ICT becomes a tool in governing life and exercising authority according to a selective vision in which submission to the formal grid creates legitimacy.

The complexity of the social and natural environment also has to be shaped to an administrative logic. An example of how the realities of the slum are molded to fit this logic is when the Kenyan government, backed by the UN-HABITAT, initiated a re-housing program for residents of Nairobi slums in 2009. Although some slum residents moved to new homes, others chose to rent out these homes and move back to Kibera. Moreover, the Nubian community in Kibera objected to the re-housing program, claiming ownership of the land and arguing that the state’s focus should be on improving living conditions within Kibera. Residents view the slum as anything but chaotic and illegible, often actively resisting attempts by external forces to shape their social space.

While undoubtedly motivated by a desire to improve the hu-
man condition, the 2009 clearance program demonstrates the futility of efforts by formal authority to understand complex realities that are not adjusted to its own logic. Making Kibera’s complexity legible through mapping and clearing the slum is not an effort to depict reality but rather an attempt to present what is interesting to the outside observer. Backed by the power behind state and/or NGO authority, this process reproduces the depicted reality. What is described is created, both in terms of social and natural space.111

NGOs tend to have greater access to local knowledge than government agencies because their workers are embedded in the slum. However, they operate under similar administrative constraints as state administration and their tasks also require some simplification of the social. In order to report on their performance to funding sources, organizations create a standardized rubric for monitoring and evaluation, attempting to fit reality into a technocratic framework. ICT allows for easier measurement and map creation. Funding applications or reports that do not use the accepted jargon of the development community will rarely receive funding.112 Hence there exists an external incentive to envision social reality in a way that corresponds to standardized technical language. For this reason, legibility is not just a problem of statecraft but applies to other agents of authority as well.

Ungoverned People

While legibility is required for formal authority to function and to pursue particular objectives, there is resistance to this process. Few Kibera residents report having positive experiences with government, and political apathy in the slum is high. Residents I interviewed feel that registration, mapping, and ordering only lead to negative outcomes such as taxation from the state, electricity bills from a company, eviction from shelters, or forced movement to “something better,” rarely leading to social benefits.113 Slum clearance is one example of a initiative that has faced resistance from residents. Another example is a project undertaken by a railway company that has attempted to register people living along the
tracks to maintain a security perimeter. These tracks form the main highway through Kibera, leading residents to resist registration and eventual eviction.

When studying ungoverned people, the power dynamics between center and periphery are better understood by viewing the marginalized as resisting state power, rather than viewing them as residents of an “underdeveloped” and “left behind” space that ought to be an object of development. From this perspective, the choice confronting Kibera residents in the face of projects designed to integrate a political community is how to position themselves strategically in relation to the state to ensure the greatest positive outcomes. The incentive to do so is high in an urban slum, which on the one hand develops informal networks to provide for residents, but on the other is constantly reshaped by the exercise of formal authority. Mobile phone use represents passive resistance to authority as it enables residents to secure security and services through informal governance, in a form of strategic positioning. In this way, ICT influences how government actions are contested and challenged.

There are clear limitations to extending Scott’s analysis to Kibera that warrant attention. Kibera is deeply entwined with the political power center, with its history of interaction with the Kenyan state, and thus cannot be considered ungoverned. Kibera residents depend on the outside world, on NGOs, on jobs in Nairobi, and on state institutions to protect their rights and services to some degree. Still, Kibera is located in a socially marginal area that is difficult to access and that is characterized by subsistence routines that maximize mobility and resistance to appropriation. Moreover, as in Scott’s analysis of the “Zomia” region in Southeast Asia, the social structure in Kibera favors dispersion, with a high migration flux that obscures any obvious point of entry for administrative projects.

By providing their own services and security, while also challenging attempts to be integrated into formal governance structures, Kibera residents resist being made legible.

CONCLUSION
The advent of new ICT has created the possibility for change in Kenya. However, as hinted at by the different perspectives of George in Kibera and permanent secretary Ndemo in his office, views of what this possibility signifies differ considerably. To understand how new ICT influences governance and participatory politics, further research must explore how governance and authority are contested by different actors, making clear whose participation is being analyzed, and to what end. Literature on ICT in a development context does not adequately explore such themes, as it tends to build on normative assumptions about the outcome of ICT use, overlooking the politics that determine who decides certain outcomes. The field research included in this study reveals a more complex picture of this underlying dynamic than exists in much of the literature surrounding ICT in Kenya.

Kenya’s history of corrupt governance and ethno-regional division has propelled demands for good governance and participatory democracy. As the ICT sector in Kenya has grown, the agendas supported by, respectively, the state and NGOs have merged with ICT4D. On the ground, these agendas play out in unexpected ways. On the one hand, formal governance uses ICT to integrate people into political processes and improve its governance record to legitimize authority. On the other hand, the Kibera community creates informal governance structures outside of formal control, resulting in communities that are more densely networked, but also marginalized from formal political life to a greater degree.

Urban slums are neither chaotic sites that the language of formal governance makes them out to be, nor the underdeveloped spaces that are represented in development discourse. Rather, they represent a source of resistance to state and NGO attempts at integration. Such resistance circumvents the formal structures in subtle ways that are becoming more visible with the increased use of mobile phones, creating a localized understanding of the world that can be said to render the slum “invisible” to outsiders. This circumvention effectively challenges the ability of the state to provide services that justify its authority, which in turn poses crucial chal-
lenges for a state with a poor record of accountability and whose population experiences high levels of political apathy. While it appears like a potential solution to these problems, aggressively integrating the polity is not necessarily the best course of action. When externally directed, integration may be met with greater resistance, especially when it is not accompanied by a corresponding extension of public services.

The study of urban slums is becoming increasingly important. UN-HABITAT reports that one billion people currently live in urban slums worldwide, a figure that is expected to double by 2030. Understanding ICT and socio-political change in urban social space is vital to facing the challenges of population growth. Looking through the lenses of the relevant social actors helps understand how urban slums function and are manipulated. Formal governance attempts to make slums more legible through administrative simplification and by molding their social and natural environment. Participation in formal processes through ICT creates legibility and thus governability, with ICT serving as a political instrument. Yet as this paper illustrates, ICT is just as much a tool for exercising informal governance, a device for holding the state at arm’s length.

Notes

1 Author interview, George, businessman and local trader, Kamukunji grounds, Kibera, Nairobi, December 9, 2010.
2 Author interview, Dr. Bitange Ndemo, Permanent Secretary for Information and Communication, member of Kenyan ICT board, Ministry of Information and Communication, Nairobi, December 16, 2010.
8 Yochai Benkler, The Wealth of Networks: How Social Production Transform


17 SIDA, ICTs for Democracy, pp. 20–21.


21 Unwin, ICT4D, p. 10.


30 Unwin, ICT4D, p.33.


33 Castells, Network Society, p. 5


37 Garrett, “Information Society,” p. 216

38 Castells et. al., Mobile Communication, p. 249.


42 Peter Kagwanja and Roger Southall (eds.), Kenya’s uncertain democracy, the electoral crisis of 2008 (New York: Routledge, 2010), p. 10;


43 For details see Barkan, “Kenya after Moi”, pp. 90–91.


46 Murunga and Nasong'o, Struggle for Democracy, p. 10.


57 Interview: Ndemo, December 2010.
58 SIDA, ICTs for Democracy, pp. 46–47.
61 SIDA, ICTs for Democracy, p. 44.
66 Bowen, Information at the Grassroots, p. 31.
67 Bowen, Information at the Grassroots, pp. 32–33.
68 Bowen, Information at the Grassroots, pp. 56–59.


Author interview, A. Hussein, Director of PamojaFM and Kibera resident, Kibera, Nairobi, December 11, 2010.


Author interview, J. Lundine, Program Coordinator at Map Kibera, Nairobi, December 10, 2010.

Author interview, James (pseudonym), Kibera resident, Kibera, Nairobi, December 14, 2010.

Author interviews, M. Hamza, Director of Women’s Centre, Kibera, Nairobi, December 14, 2010; Jack (pseudonym), former mapper for Map Kibera and Kibera resident, Kibera, Nairobi, December 14, 2010; Maria (pseudonym), tailor and Kibera resident, Kibera, Nairobi, December 14, 2010;

‘James,’ December 2010; George, businessman, 2010.

Author interview, Hussein, December 11, 2010.

Author interview, Hamza, December 14, 2010.


Author interview, George, assistant chief of Sangatore village, Kibera, Nairobi, December 14, 2010.

Author interviews, Hussein, Hamza, Jack, Maria, December 2010; George, businessman, December 2010.

Amutabi, NGO Factor, p. 194.

Author interview, George, assistant chief, December 2010.

Author interviews, Ben, Charles, Michael, Sara, and Rachel (pseudonyms), five young Kibera residents (estimated ages between 17 and 20), Kibera, Nairobi, December 13, 2010.

Author interviews, Hussein, December 2010; George, businessman, 2010.

Author interviews, Hussein, Hamza, Jack, Maria, December 2010; George, businessman, 2010.

Author interview, Hamza, December 2010.

Author interview, Rob, reporter for PamojaFM, Kibera, Nairobi, December 14, 2010.

Author interviews, Hamza, Jack, Maria, December 2010; George, businessman, 2010.

Author interview, Hussein, December 2010.

Author interviews, Ben, Charles, Michael, Sara, and Rachel, December 2010.


Author interview, Ndemo, December 2010.

See http://opendata.go.ke/.

Author interview, Ndemo, December 2010.
97 Author interview, Lundine, December 2010.
98 Author interview, Jack, December 2010.
100 Author interview, J. Kipchumbah, co-founder of Infonet, program associate at Innovations and Knowledge Management at SODNET, Nairobi, December 15, 2010.
103 Scott, Seeing Like a State, p. 2.
104 Scott, Seeing Like a State, p. 2.
106 Scott, Seeing Like a State, p. 6.
107 Scott, Seeing Like a State, p. 11.
109 Author interview, Rob, December 2010.
110 BBC, “Slum clearance.”
111 Scott, Seeing Like a State, p. 3.
113 Author interviews, Rob, December 2010, George, businessman, 2010.
114 Scott, Not Being Governed, p. 128.
115 Scott, Not Being Governed, p. 329.

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Appendix: Interviews
Some respondents are referenced under pseudonyms as they did not want their name
printed.