The Geography of Governance in Africa:
New Tools from Satellites, Surveys and Mapping Initiatives

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Abstract
Research on decentralization in Africa and beyond has made clear that the quality of decentralized governance is highly variable across localities within countries. In light of that variation, this paper has three goals: first, we critique existing academic research on the quality of governance in light of work on decentralized governance in Africa; second, we provide a conceptual map of how to theorize subnational variation in the quality of governance in settings characterized by considerable dependence on higher authorities for revenues; and third, to outline a series of data initiatives that offer the opportunity to study local and regional politics in new and exciting ways across the region. We conclude with great optimism about the prospects for innovative work on decentralized governance within countries across the region.

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Since the late 1980s, a host of African countries have undergone decentralizing reforms aimed at promoting ‘good governance’ and human development goals. These reforms involve the transfer of authority, resources, institutions and accountability mechanisms from central governments to local entities. According to the conventional wisdom, decentralization is expected to promote good governance through enhanced local democracy, greater public sector efficiency, and improved transparency and accountability in the management of public affairs. Yet academic research and policy reports on sub-Saharan Africa and beyond raise important questions about the capacity of decentralization to strengthen the quality of governance and improve the provision of public goods.

Research on decentralization in Africa and beyond has made clear that the quality of decentralized governance is highly variable across localities within countries. In doing so, research on local and regional governance has raised important questions about the conceptual and empirical underpinnings of cross-country work on “the quality of governance”, which has become prominent in both policy and academic circles. Academics are preoccupied with “good” governance at the national level because it correlates highly with all manner of good outcomes, including per capita income, health outcomes, citizen satisfaction, and the like. Aid agencies spend a lot of financial and human resources collecting data on nations’ governance quality and implementing programs aimed at improving its quality across the developing world.

The overarching goal of this paper is three-fold: First, to critique existing academic research on the quality of governance in light of work on decentralized governance in Africa; second, we seek to provide a conceptual map of how to theorize subnational variation in the quality of governance in settings characterized by considerable dependence on higher authorities for revenues; and third, to outline a series of data initiatives that offer the opportunity to study
local and regional politics in new and exciting ways. With regards to the first goal, we argue that the problem is not primarily about the quality of data bearing on governance. There are already a host of papers on the pros and cons of that data, and that is not our primary concern (Kaufmann and Kraay 2008). The more fundamental problems are that existing work conceptualizes governance as a national-level phenomenon and fails to provide a motivating theory of what might explain the huge variation in the quality of governance within Africa's increasingly decentralized countries.

As we show below, there is huge variation within countries in the quality of governance. Institutional and economic reforms in Africa have been characterized by remarkably uneven geographic implementation. As Leonard (2010) points out, there are "pockets of effectiveness" and important variation within African states' development and governance outcomes. Despite calls for a greater focus on micro-level studies of rural social, political and historical forces that shape and constrain patterns of state formation, there remains a dearth of scholarship in Africa that exploits variation over time and across sub-national units to understand local governance and economic development outcomes (Boone 2003, Mamdani 1996, Pande 2008).

This variation exists across ministries within countries, across the geography of countries, in firm experiences with government, in citizen perceptions, and in expert assessments. Theoretically, it requires that we answer a key question: What explains variation in the quality of governance across localities and regions? The second goal of this paper is to provide some starting points for answers. We argue that the quality of governance in particular places is a function of two factors: First, the incentives of central authorities to target localities with resources; and second, the nature of accountability relationships between local citizens, local governments and
national officials that define the incentives of decentralized government to deliver high quality public services (or not).

Testing claims that emerge from a decentralized approach to the quality of governance, in turn, requires a very different empirical approach and kind of data than is currently employed in most work on governance. Current efforts involve everything from expert and firm surveys bearing on corruption to attempts to codify key features of the constitutional and regulatory environment across countries. Such efforts are typically aimed at providing a snapshot of a nation’s governance quality. Any effort to explain the huge within country variation in governance quality must necessarily move beyond such summary measures. Thus, a third objective of this paper is to provide ideas for how to empirically assess governance quality across local, county and regional settings within countries. We draw the reader’s attention to recent efforts to geocode local events and outcomes on everything from violence to aid projects to electrification—efforts that offer the potential to measure time-series changes in the geography of governance with considerable nuance.

The paper is organized as follows. In section one, we summarize existing work on the quality of governance, paying particular attention to its limited capacity to speak to the heterogeneity of governance within African countries or the diversity of experiences. In the second section, we provide an analytical framework for thinking about the quality of government from the point of view of decentralized governance. In the third section, we describe new, decentralized data initiatives that address some of the challenges inherent in studying sub-national politics. We describe the advantages of working with a wide set of observational data initiatives that rely on satellite imagery, subnational surveys (oftentimes developed as part of a growing number of field experiments, aid project mapping and reports of local violence to provide geographically-nuanced,
time-series data on governance). We conclude with a summary of the advantages of focusing theoretical and empirical efforts on explaining the full range of governance experiences.

I. Current Research on the Quality of Government and Decentralization

Most definitions of good governance emphasize the importance of a capable state that is accountable to its citizens in a context characterized by the rule of law. Though the analytical foundations are often vague, the basic conceptualization of good governance is consistent with standard notions of democracy: A system of governance in which rulers face legal constraints and citizen evaluations play a fundamental role in deciding how state power is deployed. Generations of normative work on decentralization suggested that getting governance “closer to the people” would improve its quality, and it is those ideas that helped fuel the call for decentralization across much of the developing world over recent decades.

The basic idea that good governance is a panacea for all manner of poor development outcomes has led to a sustained effort to measure the key underlying characteristics of governance, particularly by donors who saw “good governance” as a key tool for promoting development. These efforts relied on surveys of citizens, firms and experts as well as various attempts to code the key institutional foundations of good governance. Yet the challenge inherent in measuring something as vague as the “quality of governance” becomes clear when one considers how vague and contested its key ingredients are—“state capacity”, the “rule of law” and “accountability” are themselves terribly slippery concepts. Unfortunately, the conceptual difficulties have given way in the face of a strong correlation among many of the governance indicators and assorted outcomes of interest. Figure 1 shows the bivariate relationship between the World Bank’s “Government Effectiveness” indicator and four measures of the quality of life: Per capita income, life expectancy, access to water, and a summary “good society” index. In all four cases, there is a
strong positive relationship, and in much of the governance research, government effectiveness is theorized to have a causal effect on human well-being (Holmberg et al. 2009).

Figure 1 About Here

Cross-national governance, rule of law and corruption indicators have revolutionized cross-national empirical work. Nevertheless, they suffer from important shortcomings, including a reliance on small numbers of unrepresentative country “experts”, the lack of a cross-country anchor point, and a tendency to conflate the inputs and outputs of good governance in algorithms that treat governance as a latent variable inferred from a host of other measures.ii Most importantly for our purposes, however, the country-level governance indicators provide no information on the distribution of governance experiences within countries.iii

Figure 2a and 2b provide some evidence on how much of the empirical variation in lost by focusing on cross-country scores. Figure 2a plots Transparency International’s (TI) expert survey-based measure of “Corruption” against the mean response provided by 200,000+ firms in 125 countries to a question about the extent to which corruption is an obstacle to doing business.iv The absence of corruption plays a central role in most conceptualizations of good governance, and researchers heavily rely on its measure in work on governance. Figure 2b plots Transparency International’s “Government Effectiveness” measure against the mean and standard deviation in our own firm-level data set.v While there is quite a strong relationship between the averages, the firm-level data shows that there is a huge amount of within-country variation that the country-level score glosses over.vi Obviously, the typical country-level indicators offer no capacity to study the within country factors that impact the causes and consequences of government effectiveness across agency, economic sector, or geography.

Figure 2a and 2b About Here
Figure 3 provides a final example of how one might think about the extensive within country variation in governance quality. It plots the standard deviation of firm responses on the corruption question against the standard deviation of expert responses in Transparency International’s survey on corruption for three countries: Togo, Senegal and Botswana. One can interpret variation along the y-axis as indicative of the heterogeneous experiences of firms in the three countries; variation along the x-axis represents the diversity of opinion among experts in the extent of corruption. The resulting blocks give a sense of the variation in governance quality within countries.

**Figure 3 About Here**

Three observations are in order. First, there is very substantial variation in how experts and firms assess corruption within these countries. If we assume that these assessments reflect actual differences, the within country variation is huge, spanning in just these three countries much of the variation on both axes. Second, it is not in the least bit obvious how one could make governance in Togo of the same quality as it is in Botswana. We have neither the theory nor the data that would allow us to make strong claims in this regard. It seems more plausible to bracket the Botswana-ness and Togo-ness of those two countries in favor of an attempt to understand and improve the quality of governance within each of them. One implication is that the appropriate counterfactual comparison for a poorly governed locality in Namibia is more likely to be found in Namibia than it is in Togo. Third and finally, if a great deal of this variation is driven by variation in governance across villages, towns and cities, it belies any notion of decentralization or decentralized outcomes as subject to national-level generalization. A growing body of work underscores the limitations of cross-country comparisons of levels of decentralization (either their causes or consequences) and even country-level analyses of the effect of decentralizing reforms. The nature of decentralized
governance varies hugely within African countries, and that variation exists despite important variation in national-level measures of decentralization. Understanding that variation is only slightly implicated in research on decentralization, which is often understood as a country-level characteristic or process.

Boone (2003), for instance, highlights the extent to which rural social forces shape and constrain patterns of state formation across the geography of African countries; patterns of decentralization are uneven within countries because of regional variation in political capacities and interests of rural societies and leaders. Her research in Senegal, Ghana and Côte d’Ivoire reveal a highly uneven geographic pattern of state building within each country. Both the argument and the evidence provide an important qualifier to Herbst’s (2000) seminal argument linking low population densities to weak incentives for state builders to project authority beyond capital cities and Bates’ (1982) early work on the urban and rural incidence of public policies in sub-Saharan Africa.

The foundational contributions of Boone, Herbst and Bates are echoed in a boom in very micro-level research aimed at explaining variation in local governance in many African states. Micro-level work furthers our understanding of the effects of institutions at the sub-national level and addresses the dynamic outcomes that many social scientists care about. Why, for instance, do authorities provide some localities with electrification and others not? What accounts for local electoral cycles? How, to address a particularly salient issue in contemporary Africa, do local political equilibria respond to the discovery of new, local natural resource discoveries?

With its focus on deep historical causes the boomlet in local-level research points to how difficult it is to do research that address these more dynamic processes. Some such studies, such as Berger’s (2011) study of the effect of different colonial tax regimes on the quality of local
government in Nigeria, emphasize the deep historical roots of modern governance. He shows that where the British developed local tax systems were more bureaucratically intensive, contemporary services are better and citizens more satisfied with their governments. Above and beyond the local implications of subnational variation in colonial experiences, much recent research emphasizes the importance of the geographic distribution of ethnic groups for local governance outcomes. Kasara (2007), for instance, emphasizes the importance of ethnicity for taxation, a key state building activity, and suggests that state leaders tax co-ethnic regions more than other ethnic regions. Burgess et al. (2013), on the other hand, show that co-ethnic localities in Kenya benefit from increased expenditures on nationally-funded road projects, although this effect declines substantially during democratic spells, i.e. when governments need to cultivate support that extends beyond their ethnic core supporters. Finally, a series of studies have examined how variation in local access to information and governance procedures shape local governance. Keefer and Khemani (2012), for instance, rely on exogenous, geographically-defined access to media in Benin to study the relationship among citizen information, public policies and clientelism. They find that improved access to information encourages citizens to place more value on programmatic politics at the expense of clientelism, even if there is no obvious impact on service delivery by governments. In a similar vein, Grossman (2014) shows that more participatory methods of leader selection in Ugandan farmer cooperatives improve responsiveness and foster institutions of oversight.

In parallel with this work on variation in local governance patterns, a rapidly growing body of literature shows that the supposed monopoly on violence is highly uneven across the geography of many states in Africa (Cederman and Girardin 2007; Pierskalla and Hollenbach 2013; O’Loughlin et al. 2012). Humphreys and Mohamed’s (2005) work on civil war onset in
Senegal and Mali, for instance, examines how the local distribution of natural resources, composition of ethnic divisions, fear of regional spillover effects and relative size of different groups affect the onset and duration of small conflicts. They conclude that the most important explanatory variables are patterns of within country inequality, as well as the regional political importance of local conflicts. Historical variation in resource distribution, settlement patterns and conflict experiences has important residual effects on state capacity across territory. One important implication is that citizen experiences with “law and order”—with the state’s police, its judges, and administrators—is highly heterogeneous, reflecting the diverse decentralized realities within any given country.

If the work above is primarily focused on governance outcomes, there is also a booming interest among economists in explaining the huge diversity of economic outcomes within the continent’s countries. Recent work on local variation in governance and economic outcomes shows that subnational variation in institutional experience has persistent, long-term effects. Different local histories – of indirect or direct rule, inclusive or exclusive institutions, slavery or no - contribute to different governance and developmental outcomes, even though these different localities have been grouped under the same national institutions for decades or centuries. In doing so, much of the research relies on deep, historical variation in local conditions (such as colonial effort or historical modes of selecting chiefs), which correlate with some set of contemporary outcomes. Nunn (2008), for instance, shows that the long-term negative developmental effect of the African slave trade varied with geography and provides evidence that the effect works through the extent of state failure and ethnic fragmentation. Michalopoulos and Papaioannou (2013) and Huillery (2009) use sub-national data on the extent and nature of pre-colonial institutions to show that the existence of historical forms of centralized and decentralized governance map onto
contemporary government performance and development. Finally, Acemoglu et al (2013), show that constraints on the power of traditional chiefs across Sierra Leone contribute to highly varied security in property rights and help explain differences in economic outcomes, citizens’ attitudes and social capital. Overall, greater competition among chiefs translates into better economic development outcomes because it strengthens accountability and improves land governance.

In summary, there is growing evidence that a great deal of within country variation is, in fact, geographic (as distinct from variation in, say, the quality of different bureaucracies in particular locations). As an empirical matter, we have considerable evidence that there is variation in both the implementation of decentralization reforms and outcomes of decentralization within African countries. A focus on the uneven process of decentralization and variation in the quality of local governance within countries offers important empirical and analytical advantages to understanding the impact of decentralization. Doing so requires a somewhat different set of analytical tools than a decade’s worth of work on decentralization has provided, and it certainly requires a new set of empirical tools. It is to these issues that we now turn.

II. Governance in Space: A Conceptual Framework and Empirical Challenges

A great deal of research has focused on the characteristics, causes and consequences of decentralization (Oates 1972; Weingast 1995; Rodden 2005; Falleti 2008; Erk 2006; Beramendi 2012). Some such work is preoccupied with different states of decentralization (i.e. “high” or “low”), while other research focuses on transitions to and from different levels of decentralization. With its focus on country-level characteristics and dynamics, however, research on decentralization provides relatively little leverage in helping explaining divergent local political and economic outcomes, despite drawing inspiration from Tiebout’s (1956) work on understanding heterogeneity in decentralized taste for and provision of public services. And while there is a
growing sense that the failure of many decentralizing reforms in the 1990s and 2000s resulted from the uneven capacity of local citizens to hold decentralized elites accountable, there is not a lot of research explicitly aimed at theorizing that heterogeneity.

As such, we outline a brief conceptual framework to guide empirical work on the quality of governance across localities within countries. We build very explicitly on a large body of related work, and our goal is simply to sketch out a broad conceptual outline sufficient to structure a discussion of the empirical challenges that future research on local governance will necessarily face. We understand the quality of local or decentralized governance to be a function of two broad factors: a) the resources available to decentralized officials and local chiefs, resources that are often provided by central authorities as part of a distributive game in space; and b) the quality of decentralized accountability, i.e. the extent to which subnational officials, whether they be elected politicians or unelected chiefs, have incentives to provide quality public goods and citizens are satisfied with governmental procedures. The issue of resource allocation is more difficult than it seems. Obviously, some localities are richer than others, and this has bearing on their capacity to tax and spend. Yet, most local public sector resources in Africa ultimately derive from central governments. Across the region, the lion’s share of taxation is conducted by national governments, because they have technological advantages in tax collection and there are economies of scale in many forms of taxation. Since central authorities collect most of the revenue, it is important to understand how strong their own incentives are to steal at the expense of localities and how they allocate revenues across localities and regions as they do.

Our theoretical starting point is that state leaders must make decisions on the allocation of scarce resources. We understand these allocative choices as a means to manage the political landscape: To reward friends, tempt foes, and provide resources to those thought likely to help
maintain them in office. As a result of scarcity in state resources and the strategic choices of leaders, some areas of the country will receive more transfers than others. In short, the allocation of nationally-collected revenues across localities, districts, and regions represents a distributive conflict that takes place in geographic space. These conflicts are salient in places where natural resources play a large or growing role in government finances, as in Nigeria and Uganda, as well as countries where different ethnic groups are geographically concentrated, as in Sierra Leone. The challenge is to identify the factors that condition those allocative struggles. Though not initially developed with explicit reference to political geography, the theoretical literature on distributive politics offers clues on where to start. While one branch of that literature suggests that national leaders should focus their efforts on areas saturated with core supporters (Cox and McCubbins 1989), another suggests that they should target their efforts on areas with many swing supporters who might be brought into the governing coalition (Stokes 2005). In some African contexts, the concept of core and swing supporters is intimately tied to ethnicity (as in Berger et al.’s [2013] work on Kenya), while in others it is not (as in Dunning and Harrison’s [2010] research on Mali). Another theoretical tradition with a long history in research on Africa emphasizes the role of cities in providing a venue for collective mobilization against authorities and predicts an “urban bias” in the allocation of state leaders (Bates 1982). Obviously, these alternative models have divergent predictions about which localities will receive more or less resources from the central government. State leaders can be expected either to concentrate resources in cities, among supporting regions, or among swing regions.

If distributive politics across geographic space speaks to the fiscal resources available in any given locality, accountability relations define the incentives of local, district or regional officials to use those resources for the public good or for private gain. Accountability has come to
be seen as crucial ingredients of good governance, and the failures of decentralizing reforms in the
1990s and 2000s are often assigned to weaknesses in the incentive structures facing decentralized
politicians and bureaucrats. The key challenges are viewed as laziness, corruption, and other rent-
seeking behavior that serve to distort democratic processes and obfuscate lines of accountability.
In Africa, these problems have been exacerbated by the failure of decentralizing initiatives to
seriously take into account the important role of traditional tribal leaders in many localities. As a
result, new decentralized institutions and competencies were simply overlaid on traditional
governance forms and further complicated accountability relations. In addition to outright theft and
misuse of funds, academics and donors are also beginning to focus on other forms of poor
performance, such as the underutilization of existing resources and absenteeism among health
workers and teachers. Where accountability relations are stronger, all of these governance defects
should decline.

Obviously, the challenge of understanding why accountability varies across settings is an
age-old one. The challenge is harder at decentralized levels, however. Decentralized officials vary
in the competencies they control; local politics vary in how democratic they are; citizens vary in
the quality of information they hold on different levels of government; and the potential for
attributing responsibility to the wrong government increases as the levels of government increase.
Local governance becomes more accountable as it approximates two ideal characteristics: a) a
close match between citizen preferences and local policies; and b) low agency costs. The former
characteristic implies that there is some “public” will that is discoverable via a political process
(Obviously this implies serious social choice problems), while the latter process implies that it is
relatively cheap for citizens to gather information on and communicate with government and hold
officials to account for their behavior.
There are two mechanisms for decentralized accountability. First, “prospective accountability” operates when there are arenas, such as elections or public meetings, for discovering the “will of the people”, which local officials then implement. Part of the appeal of decentralized governance relies on the belief that citizens have coherent and identifiable preferences about services, and these vary from one locality to another. Thus local policies can be tailored to the needs and desires of local populations more effectively than when decision-making is centralized. We refer to this as “prospective” accountability since it requires local officials or chiefs to offer a vision of the future. The sin qua non of prospective accountability is participation; the more citizens participate, supposedly, the more responsive government becomes. Of course, clientelism and other practices can sharply limit the information citizens can deliver to public officials (Finan and Schechter 2012; Wantchekon 2003, 2008; Olken 2007). Where clientelism is pervasive, local politics often have little to do with service provision, and elites are able to tailor budgeting and service provision to suit their own needs.

Second, “retrospective accountability” operates when citizens can sanction local officials when they perform poorly, where sanctioning might involve anything from incumbents being voted out of office to having unelected bureaucrats fired to processes for replacing or rotating among traditional local leaders. The basic idea is that citizens use everyday experiences with government, service provision, or bribery to judge how their government is performing (Fiorina 1981, Popkin 1994). When these indicators fall below some threshold, citizens throw officials out and give someone else the opportunity to do better. As long as politicians desire to retain power, this retrospective judgment can be an effective way of keeping politicians from stealing too many of the fruits of office for themselves or narrow interest groups (Besley 2006). As a long line of work has made clear, retrospective evaluations are difficult because citizens often have little
reliable information about the choices facing local officials, and those officials have incentives to
hide information in order to protect their own interests. Where information is abundant and
sanctioning mechanisms are well-developed, however, retrospective accountability improves.

When one combines this conceptualization of the quality of local governance as reflecting
distributive politics in space and local accountability relations with the fact that most current work
on governance focuses on cross-country data, it becomes clear there are serious empirical
challenges to studying the geographic quality of governance. Two challenges stand out. First,
standard approaches to studying the quality of governance or state strength provide no geographic
information. In addition to being quite subjective (in the sense that they involve expert and citizen
opinions that lack an anchor point), nationally-oriented efforts are ill-equipped to investigate
subnational variation in resource allocation and accountability. Similarly, work on “state capacity”
tends to rely on indicators of GDP per capita (Fearon and Laitin 2003), tax revenue as a share of
GDP (Thies 2010), and other summary measures that provide no information on the geographic
distribution of state capacity. Second, several of the key concepts outlined above, including
government effort, geographic targeting, responsiveness, etc. are very difficult to observe directly.
Even local citizen preferences are nearly impossible to “see” in any systematic way because there
are very, very few surveys with representative samples below the national level. Absent such
information, it is very hard to know if any particular local government is successfully being held
accountable or not. In lieu of cross-country mean scores, researchers need measures of governance
quality that are objective, geographically nuanced, and dynamic.

III. Innovations in Data: Mapping the Geography of Governance

The good news is that a series of data initiatives in Sub-Saharan Africa make exactly this
class of systematic work much more possible than ever. In this section, we outline a set of
empirical resources for the empirically-minded scholar of local politics and provide an example for how several of those resources can be brought together. All of the data initiatives involve mapping in one form or another. In order to provide structure to the discussion, we organize it around the following concepts: mapping aid, mapping preferences and behavior, and mapping services/outcomes. Different data sources allow for varying levels of geographic nuance, but all of them are aimed at pushing the level of analysis below that of the country.

III.1 Mapping Aid

Obviously, foreign donors play a substantial role in many African societies, and the region is more dependent on aid than any other. A good deal of that aid is explicitly aimed at improving governance outcomes, including at decentralized levels. One can appreciate the sheer scale of these efforts by comparing the amount spent on governance programming by donors to that spent by the National Science Foundation on research aimed at understanding governance. In 2011, the NSF budgeted about $10 million for all of Political Science. These number pale in comparison to the amount of programming going into governance: the UK alone spent $1.3 billion, the EU $3.6 billion, and the U.S. $5.6 billion. In sum, bilateral donors spent $17.5 billion, and multilateral donors (such as the World Bank) spent $56.4 billion. That sum is larger than the GDPs of the great majority of Africa’s countries.

Until recently, it was impossible to know where exactly these governance projects were located. But that has changed with two initiatives. The World Bank’s “Mapping for Results” project provides information and visualization tools bearing on the specific location of Bank-financed projects. Designed as a tool for both analysis and transparency (i.e. allowing local communities to know where projects are located), the project allows for the overlaying of georeferenced aid projects with subnational information on political, social, and economic outcomes.
“AidData” is a similar, even broader, project housed at the College of William and Mary that collects information on aid at the project level. Whenever possible, projects are geocoded, which allows researchers to map them with other regional and local data. This project harmonizes data across lenders, and it has coded 1 million projects from more than 85 bilateral and multilateral aid agencies and development banks. One striking result of these aid-mapping efforts is that they make clear how densely and deeply donor programming has penetrated localities across many African societies.

III.2 Mapping Preferences and Behavior

Even more important for understanding the quality of decentralized governance is to have information on the preferences and attitudes of local and regional citizens. Unfortunately, there are very few systematic efforts in surveys to combine questions bearing on politics and governance with sampling at the sub-country level. All of the well-known surveys, such as the Afrobarometer, aim for nationally-representative samples, but in doing so they fail to provide researchers with reliable information at the subnational level. Many, many countries run health and education surveys with subnationally representative sample, and censuses are, of course, representative at the census block. Unfortunately, those surveys typically exclude questions bearing on political preferences or attitudes. Perhaps the most noteworthy exception to that rule is Sierra Leone’s misnamed “National Public Services” surveys, which cover more than 6000 households over four waves (2005, 2007, 2008 and 2011) and are explicitly aimed at evaluating attitudes about subnational governments, knowledge of decentralization, local development priorities, and participation in local decision-making. The paucity of these kinds of surveys aside, there are data initiatives that aim at assessing preferences in other ways. One project of particular relevance to political science is the Constituency-Level Elections archive. The archive collects election results.
for lower houses at the level of the electoral constituency. Since many such constituencies are subnational, this represents an important source of decentralized electoral data across a large number of countries. As anyone who has attempted to gather decentralized electoral results across African countries, this represents a valuable source of information, and it has recently expanded considerably with the inclusion of the Elections Passport Project. Finally, it is worth noting that there are a series of efforts aimed at mapping populations, such as ethnic groups. To the extent particular populations are associated with specific interests or beliefs, this mapping alone can help provide some entrance into variation in political geographies.

One under-appreciated source for rigorous local level data on both citizen attitudes and public services is the boom in field experiments that are increasingly common across Africa. Development economists (many of them associated with the Abdul Latif Jameel Poverty Action Lab [JPAL]) have been popularizing field experiments for well over a decade, and scholars are increasingly turning to such designs to better understand the dynamics of decentralized decision-making and local government accountability. While the methodological debates about the pros and cons of field experiments have been discussed elsewhere (see, for instance, Duflo et al. 2006; Deaton 2009; Acemoglu 2010; Imbens 2009), less appreciated is that they provide a particularly rigorous form of local-level data that is oftentimes publically available and that increasingly allow for comparisons across the locations where any particular field experiment is conducted. Field experiments on governance almost invariably include baseline and endpoint surveys of households, bureaucrats, and/or political leaders. Given that many such experiments involve related sets of issues, they offer the potential to pool local-level surveys across settings, even if one cannot generalize from any particular experimental result.
Field experimental research on governance in Africa over the last several years has provided perhaps more innovative work than on any other continent (Bjorkman & Svensson 2009; Collier & Vicente 2011; Humphreys & Weinstein 2007; Wantchekon 2003), and the common themes running through those experiments offer a rich array of local-level data. There are, for instance, an increasing number field experiments that focus on elections (Ichino and Shundeln 2012; Vicente 2007; Wantchekon 2003, 2007). Several studies, for instance, estimate the effect of vote buying and clientelism on electoral outcomes. Clientelistic exchange involves citizens voting or otherwise participating in democratic procedures in a manner consistent with their patron’s wish in return for some private transfer. In response to this class of issues, Wantchekon (2003) convinced party leaders in Benin to eschew traditional clientelist practices and focus on appeals related to service provision in constituency strongholds. He shows that clientelism is often effective and produces widespread electoral support. In subsequent work in Benin (2009), he attempts to bolster the credibility of programmatic platforms with policies recommended by technical expertise and finds that programmatic policy platforms can increase electoral participation and citizen knowledge. Relatedly, Vicente (2007) finds that a local campaign against vote buying in Sao Tome and Principe reduced the incidence of vote buying while decreasing voter turnout. The underlying implication of this research on clientelism is clear: Increasing participation when clientelistic exchange is the norm is unlikely to improve the responsiveness of local government.

A separate line of field experimental work investigates the effect of community-driven-development/reconstruction (CDD/R) programs that promote participatory processes and inclusive decision making for local public goods projects. Fearon, Humphreys, and Weinstein (2011) examine the impact of a CDD/R project on collective action and democratic accountability in post-
conflict Liberia, where they find that participatory local politics generate social cohesion and increased contributions in public goods games. A similar study of CDD/R in post-conflict Sierra Leone by Casey, Glennerster and Miguel (2012) failed to find the same positive results on governance, social cohesion, or the empowerment of marginalized groups. In a related study of participatory decision-making in Sao Tome and Principe, Humphreys, Masters and Sandbu (2006) find clear evidence of elite capture in deliberative forums. The overarching message from this work is that there are many potential obstacles to translating increased participation into better governance outcomes, even if participation has a normative value unto itself.

Yet a third cluster of field experiments have focused on the capacity of citizens to evaluate and sanction government for its performance. The basic problem is that citizens often lack access to information, and politicians often have incentives to hide information about their true intentions and effort. Access to such information is especially difficult in African countries because of inadequate infrastructure, government restrictions on the freedom of information, low levels of literacy, weak local presses, and multiple layers of decentralized government with overlapping authority. In light of these challenges, field experiments have focused on various technologies for improving citizen information, including score cards, media campaigns, information sheets, and published audits. In studies of elite responsiveness in Uganda, Humphreys and Weinstein (2010), and Grossman (in progress), performance scorecards of Members of Parliament were disseminated to their respective constituents. In Benin, Keefer and Khemani (2012) examine the effect of radio-based campaigns on the importance of education and health services for citizens in Benin. They find that such campaigns increase the salience of such services, but they do not increase collective action or impact the quality of service delivery. On the other hand, Bjorkman and Svensson (2009) examine the effects of meetings that introduced a community-based monitoring system into health
clinics in Uganda and report impressive effects on service provision, utilization, and health outcomes. All told, the evidence is mixed: Citizens seem to care less about how their politicians spend their time; there is at least some indication that sector specific information campaigns can work.

Randomized control trials offer a promising approach to address research questions bearing on governance in Africa. Less appreciated by those who do not engage in such research is that RCTs increasingly provide a rich body of rigorously collected and often comparable data on local governance. And as the field experimental agenda grows, the prospect for replicating studies across empirical settings expands.

III.3 Mapping Outcomes

If data initiatives on preferences remain fairly limited, there has been much more recent progress on mapping services and outcomes. Particularly important with regards to political outcomes are the two large projects aimed at collecting and geocoding violent event data, the Uppsala Conflict Data Program’s Georeferenced Event Dataset (UCDP GED) and the Armed Conflict Location & Event Data project (ACLED). Both projects rely on press reports to generate information on the timing, location, participants in, and nature of political violence. That violence can involve large-scale bloodshed by the state against populations, by rebel groups, or among civilians (as in riots and protests). In ACLED’s case, the data spans more than 79,000 events over the 1997-2013 period. UCDP GED covers fewer events (about 24,000), but goes back to 1989. These datasets, particularly when merged with disaggregated economic and population information provide important leverage for analyzing the causes and dynamics of violent conflict, which persist across the region despite a downward trend in the number of civil wars. To the extent law and order represent the sin qua non of the modern state and that its local manifestation has crucial
implications for citizen well-being, this heterogeneous geographic experience with local violence warrants the growing attention it is deserving among social scientists.

If these datasets on violence are already in widespread use, data sources on public services are currently very under-exploited by social scientists interested in African governance. The MEASURE DHS project, for instance, provides geo-referenced surveys on health facilities and health outcomes for a large number of localities across many African countries; in many countries there have been multiple surveys over time. The MEASURE DHS surveys are echoed in significant efforts by the statistical agencies of many countries, often with donor help, to conduct subnationally representative surveys on health or education. Many of the better surveys provide the backbone to the recently released African Education and Infrastructure dataset, which includes subnational (typically at the level of the region or province) data on literacy, school attendance, access to sanitation and electricity, etc. These health and education surveys typically have little political content, but they do speak very clearly to the huge cross-locality variation in both access to services and the quality of the services that are available.

**III.4 Remote Sensing and Bringing it All Together**

Finally, it is worth noting the promise of relying on remote sensing data for highly nuanced information on everything from electrification to roads to perhaps even property rights. As pioneered by Min (2011), satellite imagery provides high-resolution images of the earth’s surface. Even publically available imagery provides sufficient detail to distinguish electrification, roads, and irrigation projects. Particularly when analyzed through time, they provide direct, geographically-differentiated evidence on the efforts of state leaders to provide basic public goods. Satellite data, moreover, has the advantages of providing this geographic information in a way that
is objective and not subject to cooked accounting (as in governments’ self-reported public finance
data).xvi

As a means to describe how one can bring together these assorted data sources, we
summarize the effort of Hollenbach, Wibbels and Ward (2013) to combine satellite imagery on
electrification with other geo-coded data to understand the strategic decisions of central officials to
allocate scarce resources across space. The authors ask: How and why do state leaders expand their
capacity to provide governance across the territory of a country? They use post-civil war countries,
including Liberia, Sierra Leone, Burundi, and Ivory Coast to explore why state leaders facing
resource constraints build capacity as they do across localities. Because civil wars destroy
infrastructure, post-conflict settings offer the opportunity to examine how and why leaders expand
the state where they do, effectively from scratch. They use the time-series of images to calculate
the difference in light intensity for each pixel in the satellite images from the end of the conflict
until the end of the first post-conflict presidential term (or the latest available image if there has not
been a second election) and aggregate this pixel-level data by taking the mean for the lowest
electoral level available.

The authors combine this data with other types of geo-coded information, including that on
district-level electoral outcomes, district-level violence data from the ACLED project (Raleigh et
al. 2010), gridded population from Columbia’s “Gridded Population of the World” data (Center for
International Earth Science Information Network 2005), the settlement patterns of ethnic groups
(Wucherpfennig et al. 2011), and features of district-level economies, including mineral locations
(Gilmore et al. 2005; Lujala et al. 2007). The combination of these different types of data allows
the authors to test competing models of distributive politics in a multivariate, geospatial setting.
Rather than walk through the results, Map 1 provides a sense of what the data looks like for one of
the six countries—Sierra Leone—that they analyze. The maps shows: a) the change in electricity coverage between the end of the civil war and second post-conflict election; b) the level of electoral support for the president in the first post-war election; and c) the incidence of conflict over the course of the civil war. The latter two types of data are presented on the same map, with darker red districts reflecting stronger support for the elected president and dots from grey to black representing the intensity of civil war conflict in locations. In Sierra Leone, electricity coverage expanded in an electorally contested capital and in key cities where President Kabbah had very strong support, but it also shrank outside some of those cities. The clear electoral line running across the country closely mirrors ethnic divisions in the country. Once this kind of data is exposed to multivariate analysis, the authors find that authorities target electrification to locations that have a history of violence. They do so at the expense of other plausible strategic choices, such as targeting cities, supporters, or swing districts.

Map 1 About Here

IV: Conclusion

This paper emphasizes the need for research on the spatial and temporal variation in the geography of African state making. The objectives of this paper have been to critique the status quo in the study of governance, suggest the importance of studying it at a more geographically nuanced level, and offer new data and recently popularized methods for exploring decentralization in Africa in a more nuanced and empirically sophisticated manner. A review of the empirical data highlights the tremendous within country variation in governance patterns and decentralization outcomes across Africa. In order to understand whether and how decentralization improves governance, democracy, accountability and livelihood outcomes, research should exploit this remarkable spatial and historical variation. We argue that this variation requires an analytical focus
on the subnational and a different set of empirical tools than currently characterize most work on governance. In particular, we emphasize the benefits of empirical innovations that rely on remote sensing and the geocoding of everything from health clinics to violent events to foreign aid projects.

Above and beyond the simple fact that much of the variation in governance quality is within countries, we believe that focusing attention on within-country variation also has important analytical advantages to investigating the impact of institutional and economic reforms. Micro-level research enables academics to explore sources of variation that are not possible to explore with aggregate/national data and may offer the potential for cleaner identification strategies. In particular, micro-level studies can meet sample size and research design requirements that enable researchers to exploit exogenous variation through field experiments. It also seems likely that the most reasonable counterfactuals bearing on governance are to be found across the geography within countries rather than between them. One important implication is that the assumptions underpinning sophisticated econometric methods often applied to observational data, such as instrumental variables, regression discontinuity, difference-in-difference and propensity score matching are more likely to be found inside countries. Better research designs bearing on both observational and experimental data will enable researchers to identify the causal effects of decentralization and untangle the links among causes, mechanisms and outcomes.

Inherent in cross-country statistical comparative politics work is a considerable amount of unmeasured cross-national variation that is consumed by either the error term or country dummies—this is what researchers either do not know, do not understand, or cannot measure but that has a bearing on explaining outcomes across nations. By focusing more fully on within country variation in the quality of governance, researchers can control for legal practices,
institutions of government, party systems, cultural differences, and data collection standards that might impact between-country findings but that are often poorly measured in cross-national work. To be clear, we are not suggesting that within country research take place at the expense of cross-national research. We simply argue that it is easier to identify causal effects within countries, and if we can successfully explain the within country variation, we will have made considerable progress in explaining the global variation in the quality of governance.

Besides analytical and methodological benefits, increased attention to the geography of governance within countries offers important policy benefits. Indeed, development agencies are in the business of improving governance within countries, and helping them do so would represent a major contribution of work on the quality of governance. Current cross-country research provides a powerful motivation for aid programming on good governance (it’s positively correlated with all good things!), but it provides very little insight into what exactly good governance programming should look like. More refined and accurate models of how governance changes will promote more successful development programming.
Figure 1: The Quality of Government and Good Things

Source: Holmberg et al. (2005)
Figure 2a and 2b: Between Country (2a) and Within Country (2b) Variation in Corruption
Figure 3: Variation in Governance Quality Across Three Countries
Map 1: Electrification, Elections and Violence in Post-War Sierra Leone

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i Erik Wibbels: Department of Political Science; 140 Science Drive; Duke University; Durham, NC 27708. We would like to thank seminar participants at George Washington University, Texas A&M, and Brown University for feedback on elements of this paper. Our special thanks go to Jan Erk for his patience with our slow-developing drafts and his detailed, insightful comments on an earlier draft of this manuscript.
ii See Kaufman and Kray (2008) for a discussion of some of these issues.
iii Where national indicators come with measures of uncertainty, as both the World Bank and Transparency International do in some cases, they are typically conceptualized as providing information on measurement error rather than as theoretically interesting variation.
iv These responses come from the World Bank’s Enterprise Surveys, which have been conducted since 2002. We have pooled the survey waves as described in Barber and Wibbels (2012).
v We toggle the TI scores slightly to ease graphic presentation.
vi TI does report a standard deviation, but this is a standard deviation of the experts’ opinion. Likewise, the World Bank reports the standard errors on its governance indicators, but they are of a complicated procedure for modeling governance as a latent variable.

vii Data from the OECD’s International Development Statistics database: http://www.oecd.org/dac/stats/idsonline.htm
viii See http://maps.worldbank.org/
ix See http://www.wm.edu/offices/itpir/aiddata/?svr=web
x See: http://www.electiondataarchive.org/. A separate project, the Global Elections Database, includes data on subnational elections, but its African coverage is limited.
xii See, for instance, Wucherpfennig et al.’s (2011) data on the settlement patterns of ethnic groups.
xiii The discrepancy results from UCDP using a more restrictive definition of violent events.
xiv See http://www.measuredhs.com/What-We-Do/GIS.cfm
One concern with satellite data on electrification: foreign direct investors in resource-intensive industries build electrical infrastructure of their own. In Liberia, for instance, two cities that experience a substantial increase in post-war electrification are Buchanan and Harbel. The former is a railroad terminus for delivering iron ore from the east, where Mittal Steel has invested; the latter is a Bridgestone-owned rubber plantation.

The shading intensity reflects the number of violent events that took place in that particular location.