

# Distance, services, and citizen perceptions of the state in rural Africa

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In most poor countries, basic services in rural areas are less accessible and of lower quality than those in urban settings. In this article, we investigate the subnational geography of service delivery and its relationship with citizens' perceptions of their government by analyzing the relationship between service access, satisfaction with services and government, and the distance to urban centers for more than 21,000 survey respondents across 17 African countries. We confirm that access to services and service satisfaction suffer from a spatial gradient. However, distant citizens are less likely than their urban peers to translate service dissatisfaction into discontent with their government; distant citizens have more trust in government and more positive evaluations of both local and national officials. Our findings suggest that increasing responsiveness and accountability to citizens as a means of improving remote rural services may face more limits than promoters of democratic governance and citizen-centered accountability presume.

## 1 | INTRODUCTION

Availability, access, and quality of services vary substantially around the world, and are often defining features of a country's level of development and state capacity. There is also huge variation within many countries. In most poor countries, basic services in rural areas are less accessible and of lower quality than those in urban settings. An influential stream of research has concentrated on this urban/rural divide, arguing that development in many countries reflects an urban bias (Bates, 1981; Lipton, 1977). These arguments have been refined over time to incorporate variations in political systems, a broader conception of rural interests, factors that cross the divide (e.g., ethnic/religious identities), and the increased blurring of urban/rural boundaries (Allen, 2010; Varshney, 1998). Potter, Binns, Elliott, and Smith (2007) discuss the multiple "geographies of development" resulting from the interactions of people, places, resources, and institutions across space and time. In this article, we focus on the

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subnational geography of service delivery and its relationship with citizens' perceptions of their government. By analyzing the relationships between service access, satisfaction with services and government, and the distance to urban centers for more than 21,000 survey respondents across 17 African countries, we contribute additional nuance to the urban bias literature. At the same time, we extend substantial work linking distance to services with service outcomes (e.g., Blanford, Kumar, Luo, & MacEachren, 2012; Kadobera, Sartorius, Masanja, Mathew, & Waiswa, 2012) to research on citizens' perceptions of government. We explore how citizen satisfaction with, and trust in, government are shaped by service access and distance to urban centers. We find that access to some services and service satisfaction do, indeed, suffer from a spatial gradient, but that distant citizens are less likely than their urban peers to translate those shortcomings into discontent with their government.

A number of factors affects rural service delivery (see, e.g., Ahmad & Brosio, 2009). Central-subnational fiscal transfers may favor urban areas over rural ones and/or may be insufficient to support rural service delivery. Rural jurisdictions often face higher costs and cannot benefit from the economies of scale that urban-based services enjoy. They may have a more difficult time attracting and retaining skilled public-sector service providers. They may lack oversight and regulatory capacity and/or authority to support performance. Indeed, in some countries—for example, Madagascar (Brinkerhoff & Keener, 2003) and India (Banerjee, Chattopadhyay, Duflo, Keniston, & Singh, 2012)—public officials have used postings to rural areas as punishment for poor performance. Physical factors such as limited road and transportation networks and dispersed populations can impede access and utilization.

Below, we briefly overview the literature investigating the influence on services of distance from urban centers. The weight of the evidence clearly points to a broadly negative spatial gradient in service availability, access, utilization, quality, and outcomes. However, little of this research has paid attention to the impact of spatial factors on how citizens perceive services, their government, and the state.

Citizen perceptions are important for several reasons. Providing security and basic services stands at the core of the social contract. Delivering services demonstrates government willingness and capacity to respond to citizens' needs and demands. To the extent that citizens perceive government as fulfilling its side of the social contract, they are more willing to accept state authority and legitimacy (Levi, Sacks, & Tyler, 2009). Positive state–society relations are associated with various beneficial outcomes. Among those frequently cited are stability, conflict mitigation, and resilience (Organisation for Economic Co-operation and Development [OECD], 2008). Citizens who see government as providing valued services are more willing to participate actively in service delivery, and/or to pay taxes (Fjeldstad & Moore, 2007; Joshi & Moore, 2004). In short, basic service provision is at the heart of most conceptualizations of accountable governance. Standard models of accountability dynamics posit a direct relationship between declines in service access and quality and citizens' negative perceptions of the state.

We conduct what we believe is the first cross-national analysis of the links between service access, distance, and perceptions of government performance. We do so by combining georeferenced data from Afrobarometer respondents from 17 countries with data on the geolocations of thousands of towns and cities across sub-Saharan Africa. We seek to shed light on important questions related to service delivery and democratic governance in poor countries: Does access to government services decline with distance from cities? How do citizens assess services as their distance from urban centers grows? And how does distance mediate the relationship between citizens and their governments?

## 2 | CONNECTING DISTANCE, SERVICE ACCESS, AND CITIZEN PERCEPTIONS

In this section, we review the literature on spatial issues that affect service availability, access, utilization, quality, and/or outcomes in the rural areas of developing countries. Second, we look at the

literature that explores citizen perceptions of service quality and how it bears on perceived performance, trust in government, and legitimacy. We combine these literatures to examine how the spatial gradient in services might translate into citizens' assessments of government.

Researchers in the health sector have investigated spatial issues extensively (Guagliardo, 2004). Numerous studies of health services utilization and health outcomes have found that distance to facilities is an important determinant (Noor et al., 2006). Impacts on rates of facility-based births and maternal and child mortality are well documented. Lohela, Campbell, and Gabrysch (2012) determine that in Malawi the "odds of facility delivery decreased by 65% for every 10 km increase in distance to closest facility." Analyzing maternal and neonatal health data from South Africa, Tlebere et al. (2007) find that transportation costs and distance from primary care facilities are significant barriers to seeking care and using health services, especially in rural areas (see also Blanford et al., 2012; Kadobera et al., 2012; Tanser, Gijsbertsen, & Herbst, 2006).

Studies in other sectors have also exposed a spatial gradient. Woods (2000) investigates the link between distance and farmers' use of veterinary services in Zimbabwe, and finds that long travel distances contributed to reduced service uptake, concluding that farmers' transaction costs of accessing services grow with increased distance. Pozzi and Robinson (2008) model accessibility to livestock marketing services in the horn of Africa, and note a similar relationship between access and distance. In a study of school effectiveness in 14 sub-Saharan African countries, Lee, Zuze, and Ross (2005) find that urban schools have higher average achievement than rural ones.

Some studies have sought to assess service quality as a component of their analyses of the impacts of distance. Lee et al.'s (2005) comparative assessment of African schools notes that rural schools tended to have larger class sizes, and to offer education in shifts; both of these qualitative features were associated with lower average student achievement. In the health sector, Malqvist, Sohel, Do, Eriksson, and Persson's (2010) study in a district in Vietnam, which identifies an association between distance and neonatal mortality, suggests that the poorer quality of care in remote facilities was a factor. In a study of decentralized health and education services in Madagascar, Brinkerhoff and Keener (2003) find that distance and time posed a significant barrier to oversight and technical support visits to clinics and schools located far away from regional health and education offices, particularly in the rainy season. The evidence, therefore, is consistent and clear across countries that service access and quality tend to decline with increasing distance.

A related but smaller stream of literature explores how distance affects citizens' perceptions of services and of government in particular countries. Most of the available evidence points to urban residents with better access reporting greater satisfaction with services, and more confidence in the state, but also higher expectations of government. A recent study of Indian villages documents an urban-rural governance gradient: Rural residents received poorer quality services than people living in urban or peri-urban areas, and their experiences led them to expect little from the state (Krishna & Schober, 2014). A citizen satisfaction survey in Uganda focusing on health services finds a similar gradient and confirms the connections among citizens' perceptions, expectations, and distance (Medicines Transparency Alliance [MeTA], 2014; see also Houessou, 2015).

This country-specific work on citizen attitudes suggests that citizens' expectations of government tend to be lower in areas of reduced state presence. Such areas of limited state effort can result from weak capacity or intentional neglect, and while they may be found in urban centers, they are more likely in rural areas. As distance to cities increases, access to public goods and interactions with state actors become less frequent, and citizens expect fewer services to be provided by the government (Börzel & Risse, 2015). The overall pattern of limited state presence in rural areas is particularly stark when physical barriers, such as rivers, mountains, and dilapidated infrastructure, impede travel between rural areas and cities. As Villareal (2004) demonstrates for rural Mexico, increased distance, travel time, and cost to access government services reduce reliance on them and expectations of their salience. Krasner and

Risse (2014; using data from Lee, Walter-Drop, & Wiesel, 2014) show that most sub-Saharan African countries contain such areas of limited state presence, where the central government is unable or unwilling to maintain authority, impose political order, or enforce rules and regulations (see also Migdal, 1988). Herbst (2000) explains the persistence of geographically isolated areas in sub-Saharan Africa with reference to the high cost and low benefit of projecting state power into sparsely populated hinterlands, which shape incentives for the state to project (or not) authority across space.

Where states have a thin presence in remote regions, nonstate service providers (either private sector or nonprofit) may fill service gaps. However, the spatial gradient literature is largely silent on public versus private service provision and its possible influences on citizen perceptions of services and the government. Confounding factors include difficulties in distinguishing public from private provision, as, for example, when public health providers moonlight on the side, or when citizens are unaware of the source of services (Marvel & Girth, 2016; Stel & Ndayiragije, 2014; Tuan, Dung, Neu, & Dibley, 2005).<sup>1</sup>

The links between distance, service access, and assessments of government also have implications for debates about decentralization and whether local citizens assess local and central governments differently. There is debate over whether, for instance, an improvement in government outputs accrues to the benefit of central officials, local officials, or both, and over whether specific actors or institutions are seen as more or less trustworthy. Some scholars argue that attributions based on service provision are most likely based on visibility and perceived control (Marvel & Girth, 2016; Mcloughlin, 2015; Stel & Ndayiragije, 2014). To the extent local officials are more visible to rural residents than are distant national government representatives, we would expect attributions related to service provision to center on subnational government actors. Some also suggest that the performance of, and trust in, local officials lay the foundation for the legitimacy of higher level officials and government in general. For example, Börzel and Risse (2015) argue that in areas of limited statehood, effective local governance can build trust in higher levels of government even in the absence of hierarchical authority: “The more [local] governance services are provided in an impartial and procedurally fair way, the more they help generate and maintain generalized trust as an enabling condition for the upscaling of governance—even in the absence of functioning state institutions” (p. 8). Similarly, Fjeldstad (2004) suggests that the extent of citizens’ fiscal compliance has its basis in local governments’ capacities to provide services. Although they generally found nothing automatic about the effects of citizens’ perceptions of local officials on their views of higher level officials, Stel and Ndayiragije (2014) identify some instances where provincial officials with sectoral responsibilities gained approval for improvements in local service delivery.

Our synthesis of the literatures on distance and service access, and on rurality and attitudes toward government, suggests two divergent directions for the relationship between services and perceptions of the state as distance from urban centers increases. On one hand, citizens’ assessments of government quality and trustworthiness may become more negative as service access and quality decline with increased distance from urban settings. As distance from cities grows, service availability falls, and the challenges of gaining access to those services increase, citizens should hold poorer opinions of government officials and the institutions of government. In particular, satisfaction with, and trust in, local officials should suffer in rural areas with poor services, assuming citizens pin direct responsibility on the most proximate state actors. This hypothesis is consistent with the traditional account of the link between governance quality and accountability that underlies standard models of democratic governance. On the other hand, it may be that citizens’ assessments of government trustworthiness are decoupled from (or weakly coupled with) their experiences with service delivery. Where citizens have no or limited experience with the government as a service provider, they might evaluate public officials (and government more generally) on other dimensions. In this case, service quality is unlikely to serve as an engine for government accountability, since citizens simply do not expect services from government. We test these alternative relationships below.

### 3 | EMPIRICAL STRATEGY AND DATA

Assessing the two competing arguments outlined above would ideally employ information on distance to services, objective indicators on the quality of those services, and perceptions of government trustworthiness and legitimacy for both decentralized and national governments along with a research design that isolates the impact of geography from individuals' self-selection into locations. However, studying the relationship between physical geography and the gradient of governance confronts a host of challenges. First, limited data exist that link citizen preferences and attitudes toward government with their physical location. Second, distinguishing the causal effects of political geography on citizen attitudes is difficult since people can (to varying degrees) self-select their locations. Indeed, even very basic demographic controls that are typically included in standard survey research models are, in part, a function of geography. Individuals in rural areas are, on average, poorer, less educated, and less healthy than urban residents. This challenge—distinguishing the extent to which the place makes the person versus the person self-selects into the place—is fundamental for empirical research on political and economic geography.

Our study relies on Round 3 of the Afrobarometer survey, conducted in 2005. To our knowledge, the Round 3 data set has the best, most detailed georeferencing of respondents of any cross-national, governance-related survey. In the Round 3 data, respondents were geolocated to the nearest town or village.<sup>2</sup> Figure 1 shows the location of the respondents and provides a sense of the rich diversity of locations where respondents were interviewed. In order to measure distance from urban settings, we combined those respondent locations with the exact location of all 1,632 urban areas with populations greater than 5,000 in the Afrobarometer sample of countries.<sup>3</sup> This calculation allowed for the measurement of each respondent from their nearest city in kilometers.<sup>4</sup> The median respondent lived 15 km

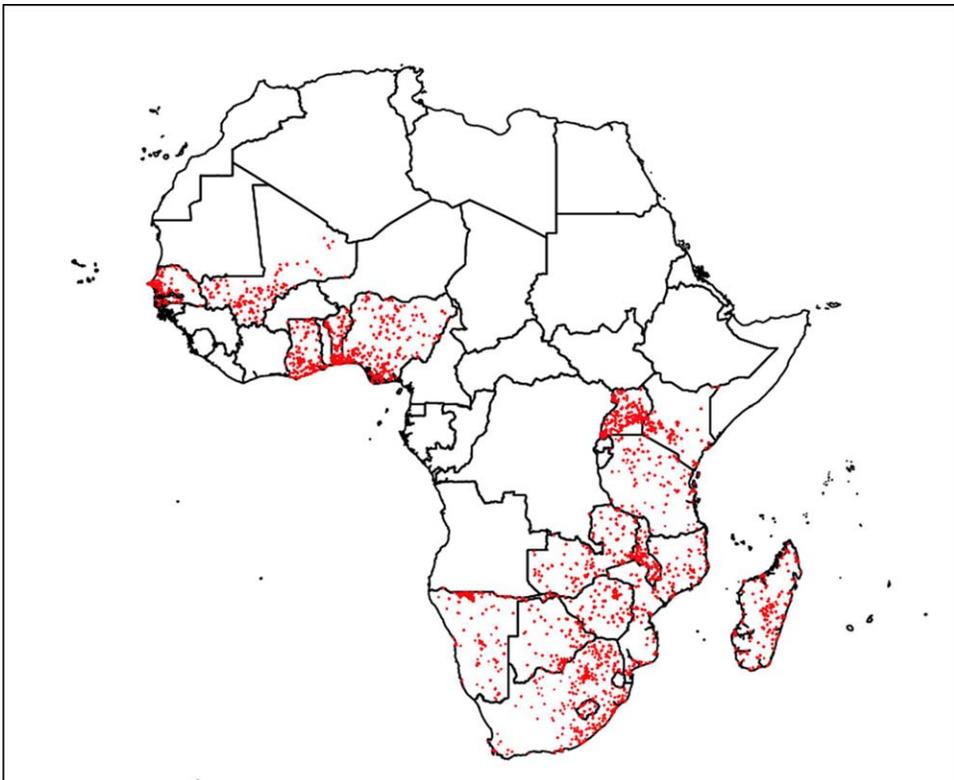


FIGURE 1 Location of afrobarometer round 3 respondents

from a city, the average respondent lived about 26 km from a city, and about 4% of respondents lived more than 90 km from a city. The resulting data set contains information on the location, distance to city, service access, and attitudes of 21,360 respondents in 17 countries.<sup>5</sup> The cross-sectional nature of the data obviously precludes us from speaking to dynamics—that is, changes in service access, satisfaction, or attitudes toward government—but we believe the scale of the cross-section provides a foundation for important future work.

As described in greater detail below, we estimated a series of multivariate models in which (a) access to services, (b) satisfaction with services, and (c) trust in and satisfaction with public officials and government alternately served as the dependent variables. In most cases, we estimated simple logistic regressions, with distance to urban areas and its square as the key independent variables and country fixed effects; the results, therefore, are driven by within-country variation.<sup>6</sup> As shown in the appendices in the online Supporting Information, our results are quite robust to more sophisticated modeling approaches that explicitly incorporate the multilevel nature of our data (including two-level, mixed-effects logistic regression) and inclusion of a set of individual-level control variables.<sup>7</sup> Although country-level variation in the gradient of governance is an interesting topic in its own right, we leave exploration of country-level fixed and random effects for further research. To facilitate interpretation of the results, we focus our discussion on graphic presentation of predicted probabilities and relegate tabular results to the Appendix and to the supplementary appendices in the online Supporting Information.

### 3.1 | Service access

Respondents were not asked how far they had to travel to access services, but as part of each survey, enumerators were responsible for asking a series of questions such as: “Were the following services present in the primary sampling unit/enumeration area: Piped water system that most houses could access?” This question format was applied to a large number of services, but it did not distinguish between public and private provision.<sup>8</sup> To conserve space, we present results for a selected set of services below that are reflective of the broad patterns.<sup>9</sup> Enumerators were limited in their capacity to evaluate the presence of services in a locality, so we also examined responses to a shorter series of questions on the difficulty of accessing services that were directly asked of respondents. The results are consistent with what we report below.<sup>10</sup> In short, our results are robust whether we rely on an objective access measure derived from enumerator observations or respondent perceptions of the difficulty of accessing services.

### 3.2 | Service satisfaction

While the survey covered issues of service access in considerable detail, it asked fewer questions bearing on citizen satisfaction with those services. We relied on three questions bearing directly on how satisfied citizens were with the government’s handling of health, education, and water services.<sup>11</sup> The specific reference to “government handling” is helpful because it isolates the role of the state from that of other potential service providers, such as nongovernmental organizations (NGOs), donors, or informal groups. We collapsed the four response options into an indicator measure of satisfaction.<sup>12</sup>

### 3.3 | Government trustworthiness and performance of public officials

The survey asked a series of questions bearing on citizens’ perceptions of government institutions as well as assessments of specific officials. We were particularly interested in how citizens assessed both national and local governments. While the former typically have a larger set of responsibilities and certainly collect the lion’s share of taxes across sub-Saharan Africa, the latter are “closer” to rural citizens.

A large body of work on decentralization suggests that local citizens might feel more empowered vis-à-vis local councils (see Brinkerhoff & Azfar, 2010). With these issues in mind, we focused on performance assessments of the president/prime minister, as the representative of the distant national government, and local councilors, who represent the most proximate officials for many rural citizens. Respondents were asked about their satisfaction with the performance of both officials over the past 12 months. For our purposes, we dichotomize the answers.<sup>13</sup>

Trustworthiness is a difficult, latent concept to measure, and an extensive literature seeks to model the linkages among perceptions of government's competence, trust, and state legitimacy (Levi et al., 2009; Sacks, 2011). The best options for our analysis came from a set of questions bearing on trust in assorted government institutions.<sup>14</sup> Since the president/prime minister and specific local councilors are individuals rather than institutions, we focused on trust in "the governing party" as a proxy for the key national institution and the "local council" as the key local one. These results are robust to a wide range of different approaches to measuring the dependent variable, including other specific survey questions and constructed indices of satisfaction with and trust in government institutions.

#### 4 | ANALYSIS AND RESULTS

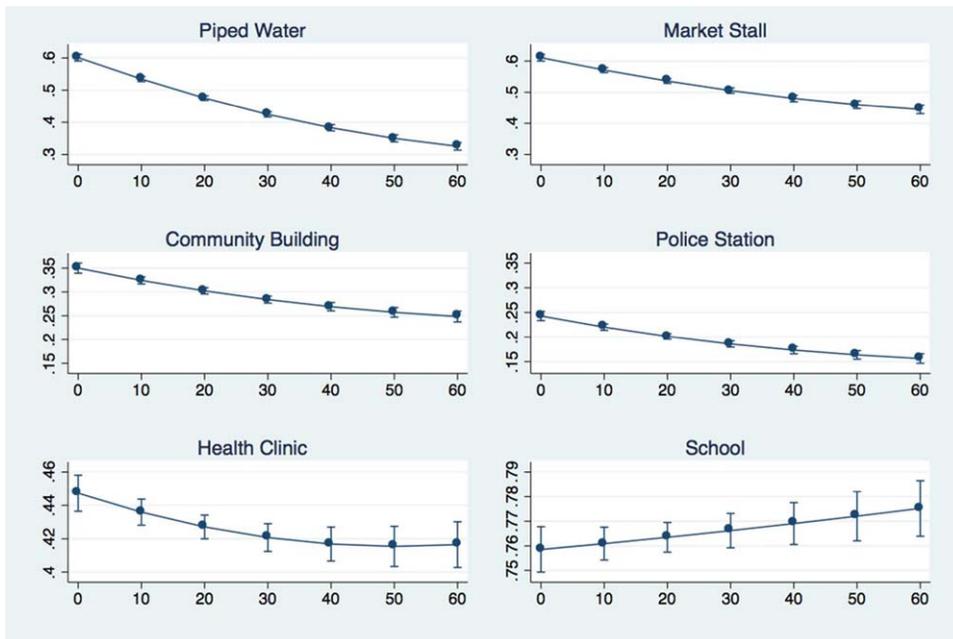
We turn first to service access. Figure 2 presents results from a series of models in which the dependent variable was a categorical measure of whether or not a service was available in the respondent's enumeration area.<sup>15</sup> Figure 2 uses the results from Table A1 in the Appendix to simulate the effect of distance on access across a range of 60 km from an urban center. We draw readers' attention to the differences in y-axis scales across the panels. We present the results for six common public services—one each on the presence of piped water, market stalls, a community building, a police station, a health clinic, and a school. In five out of six cases the results showed a substantive, statistically significant negative relationship with distance.<sup>16</sup>

The strongest relationship was with water, where the models showed access to piped water falling by 27% points (45% of the base rate of access in urban settings) across 60 km. The predicted probability of having access to a market stall declined by 16% points across 60 km (26% of the base rate), while the predicted probability of having access to a community building and police station fell by about 10% points across that distance (29% and 36%, respectively, off the base rates in cities).

These effects sizes can be difficult to interpret. Comparing the scale of these effects of distance with those of traditional individual-level covariates helps to contextualize them. The results in the supplementary appendix in the Supporting Information allow us to compare the predicted effect of distance with, for instance, a standard deviation increase in the socioeconomic status (SES) of respondents' households, which also has a consistent, significant relationship with access.<sup>17</sup> Those results indicate that increasing distance by 60 km has more than *twice* the predicted impact of a large, standard deviation increase in SES on access to piped water, a community building, and a police station. Further, it has many multiples of a larger effect on access to market stalls.

A small negative effect was evident in the predicted probability of there being a health clinic in an enumeration area, which fell by 3% points across 60 km. The only null was for access to schools, where distance to urban centers had no significant relationship with the presence of a school in an enumeration area.

We suspect that these latter two findings—the small effect on access to a clinic and the null on schools—reflect the tendency for urban enumeration areas to be smaller and for the catchment areas of clinics and schools to include citizens from multiple enumeration areas. They may also



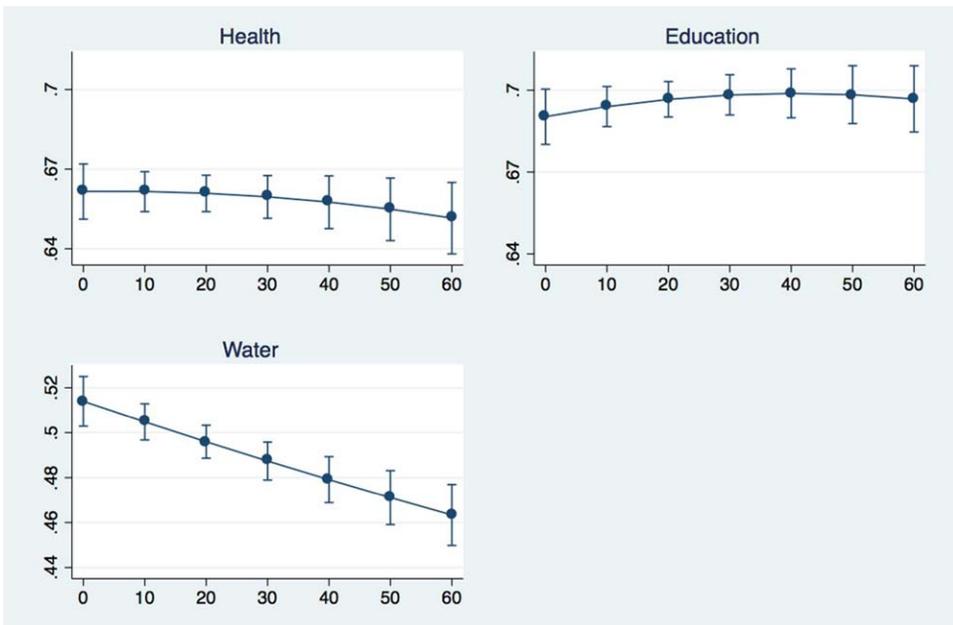
**FIGURE 2** Predicted probability of access across distance (km)

*Note.* The *x*-axis is distance in kilometers; the *y*-axis is the predicted probability of having access to a service in a respondent's enumeration area. The scale on the *y*-axis is different in the top-, middle- and lower-panels. These predicted probabilities are derived from the results in Appendix Table A1.

reflect effects of campaigns such as Education for All, which have improved enrollment rates in rural areas (United Nations Educational, Scientific, and Cultural Organization [UNESCO], 2010). Absent maps of the Afrobarometer enumeration areas, we are unable to distinguish whether one, the other, or both of these dynamics are at work. These models are representative of similar (unreported) models that we created, which also showed access to the physical infrastructure of the state generally declining with distance from cities. These results were not sensitive to the particular questions we used as dependent variables. Whether we relied on indices of access or various questions that asked respondents about the difficulty of accessing services, obtaining official documents, getting help from police, and the like, access to the state generally declined with distance.

If service access is worse overall in rural areas, is that reflected in lower satisfaction with services? As Figures 3 and 4 plus Table A2 in the Appendix make clear, the answer is a qualified "yes."<sup>18</sup> As before, we estimated logit models with our distance measure, its square, and country dummies. We present the predicted probability of the average respondent being satisfied across a range of 60 km from a city. Figure 3 shows that the probability of being satisfied with health and education is basically flat across distance, while satisfaction with water falls with increased distance from cities.

Figure 4 helps parse these results. It shows that the impact of distance on service satisfaction is strongly mediated by whether or not citizens living far from urban centers have access to services available in their enumeration area. In these models, we have simply interacted our earlier access variable with the distance measure.<sup>19</sup> Figure 4 shows that service satisfaction decreased with distance from cities for citizens who did not have access to those services locally (the downward sloped lines). The predicted probability of being satisfied falls by between 4% and 15% points off the baseline probability across the range of distance. It is perhaps encouraging that when distant citizens did have access to



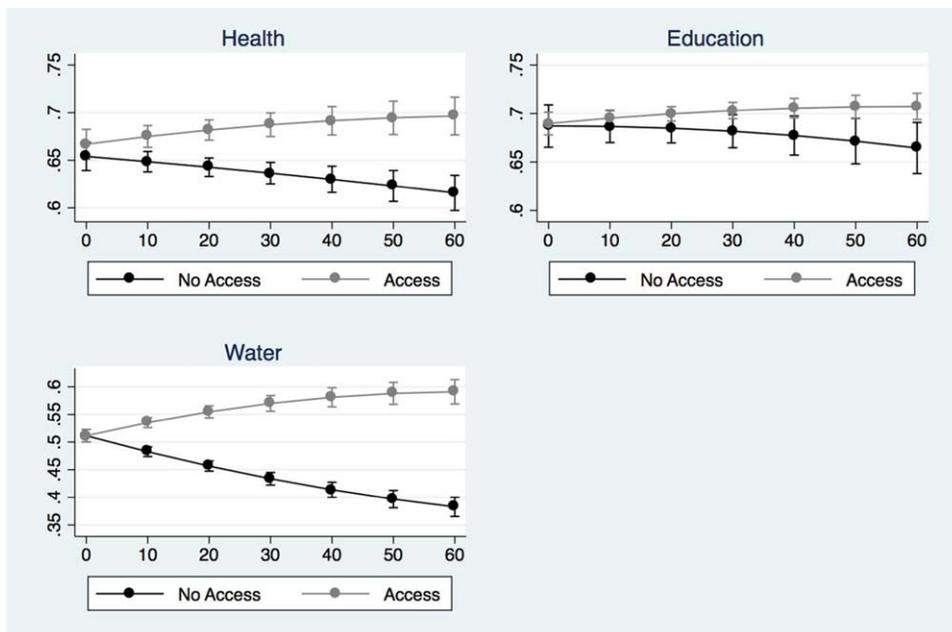
**FIGURE 3** Predicated satisfaction with services across distance

*Note.* The y-axis is the predicted probability of being satisfied with government provision of the relevant service. The scale on the y-axis is different in the top- and lower-panels. These predicted probabilities are derived from the results in Appendix Table A2.

health and education services, they were just as satisfied (and in the case of water, actually more satisfied!) with those services as urbanites. This finding would seem to conflict, at least partially, with the widespread perception that even when services are provided in rural areas, they tend to be delivered poorly.<sup>20</sup>

As with the results on access to services reported above, we compare the scale of these effects of distance with those of respondents' SES. While the predicted effects of distance on access were much larger than those of increasing SES, being 60 km from cities has about half (education and water) or one-third (health) the size of the effect on satisfaction as a large, standard deviation increase in SES.<sup>21</sup> In short, distance is simulated to be more important than SES in predicting access, but less important than SES in predicting satisfaction.

Finally, Table A3 in the Appendix and Figures 5 and 6 display how distance conditions citizens' attitudes toward government. Figure 5 shows the results for citizen approval of presidents/prime ministers and local councilors (top panel) and trust in the national ruling party and local council (bottom panel). Interestingly, the figures show a consistent progovernment bias among rural respondents. As distance from urban centers grows, respondents are more likely to approve of public officials and more likely to trust national and local institutions (this holds across a broad range of institutions not reported here). Relative to the theoretical debate discussed above, however, Figure 6 does indeed show that remote residents, that is, those who were least likely to have access to services, weighted services less intensely in their evaluations of individual officials and the institutions of government than their counterparts in urban areas who had better access. In the corresponding models, we simply interact citizens' service assessments with distance. As the predicted probabilities in Figure 6 show, the positive rural bias toward government emerges largely from the fact that those remote residents who rated government services as "very" or "fairly" bad were more likely to approve of presidents and local councilors and trust the national ruling party and local councils than their urban counterparts. These gaps close as service assessments improve; distant rural and proximate urban residents were equally approving and trusting when they assessed services as being very good.



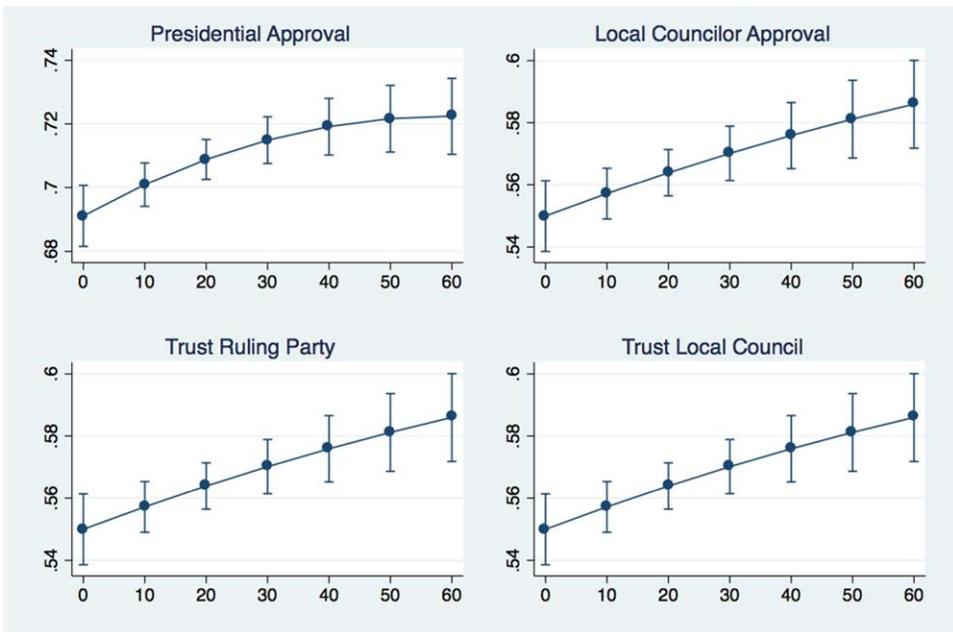
**FIGURE 4** Predicted service satisfaction conditional on distance and access

*Note.* The y-axis is the predicted probability of being satisfied with the relevant government service. The scale on the y-axis is different in the top- and lower-panels. These predicted probabilities are derived from the results in Appendix Table A2.

As above, we contextualize these predicted probabilities by comparing them with the impact of household SES, a standard individual-level covariate that has a consistently significant relationship with our approval and trust response variables. Simulating predicted approval and trust from the results in Supporting Information Appendix 3 shows that increasing distance by 60 km has a similar effect as increasing SES by a standard deviation on approval in the president and the local council. The same change has a much larger impact on trust in the ruling party (twice) and local council (1.5 times) as increasing SES. Whether we consider access, satisfaction with services or attitudes toward governance, distance to urban centers is simulated to have a substantively large effect.

## 5 | DISCUSSION

In line with prior studies, our findings confirm that access to many government services does indeed decline with increased remoteness. We also find that citizen satisfaction with services declines as distance from urban centers grows. However, where distant citizens have access to services, they assess them just as positively as their urban counterparts. Our data and analysis reveal that distant citizens are less likely to connect poor services with negative assessments of government officials and institutions. Instead, we find that distant citizens have *more* trust in government and *more positive* evaluations of government officials, whether those officials be local or national. Service assessments do matter for attitudes toward government in both urban and rural Africa, but service access and government's satisfactory handling of services seem to play a smaller role for rural citizens. Indeed, absence (or distance, in this case) appears to "make the heart grow fonder." Our findings are consistent with the argument that citizens' experience with poor services and lack of access reduces their satisfaction, but that the relationship attenuates as citizens have less exposure to, and lower expectations of, government.<sup>22</sup> In this section, drawing on the literature, we present possible interpretations and implications of these results.



**FIGURE 5** Government approval, trust, and distance

*Note.* The y-axis is the predicted probability of being satisfied with the relevant government official or trusting the referenced institution. The scale on the y-axis is different for the presidential approval panel. These predicted probabilities are derived from the results in Appendix Table A3.

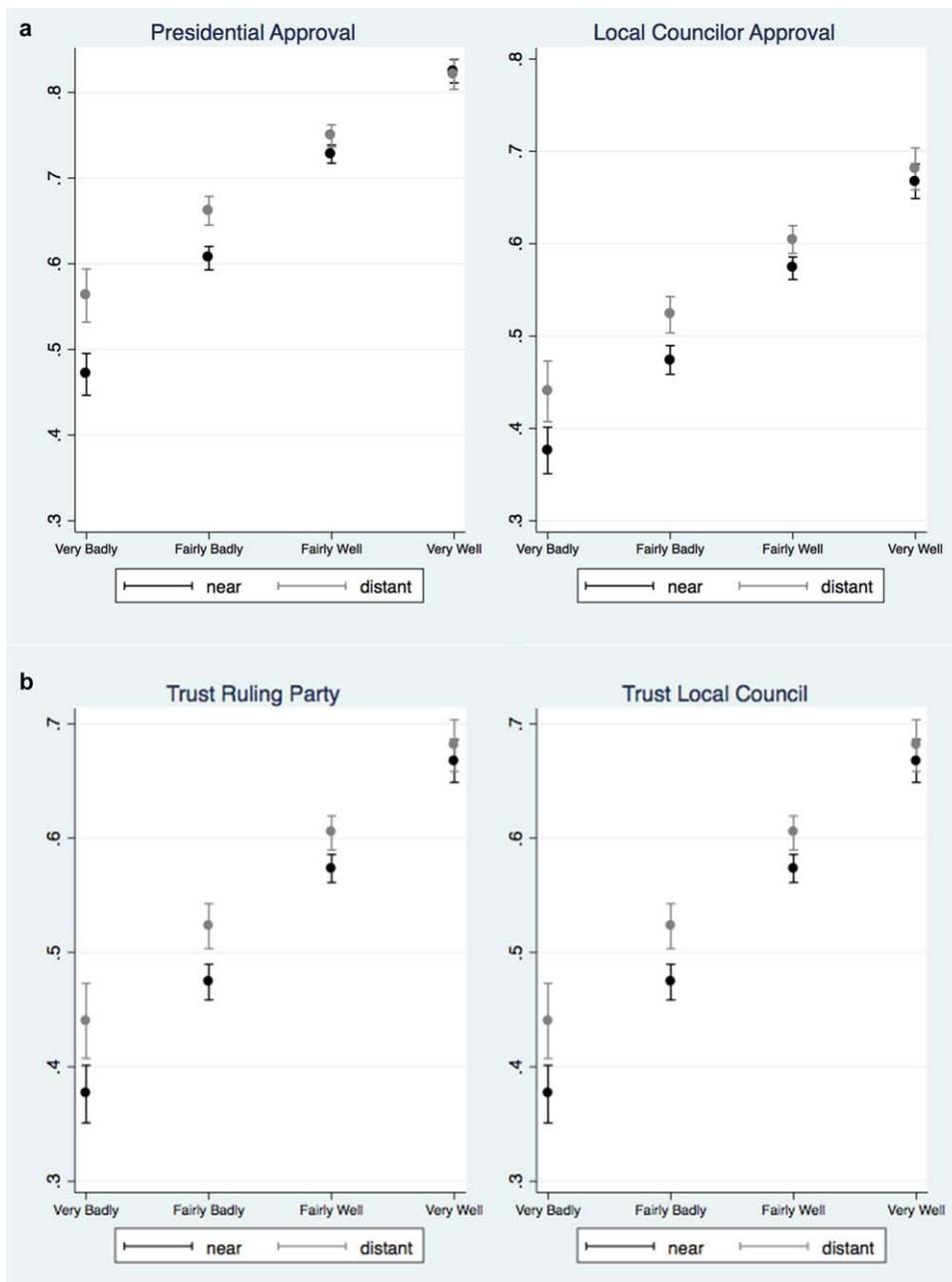
### 5.1 | Expectations concerning public services in rural areas

That service satisfaction matters less for remote citizens' perceptions of government may reflect that citizens have learned how to manage their lives without expecting support from government. Because they have less access to services, the literature suggests that their expectations of what the state can and should deliver are likely to be lower than in urban areas with better access (Villareal, 2004). These lower expectations mean that rural residents are willing to give government a break for a number of reasons.

First, the higher levels of trust in government, even when service delivery is perceived as very or fairly bad, may reflect rural citizens' assessments of state capacity. Particularly in remote regions where state penetration is low, expectations of governments' contributions to services have been shown to be lower, or at least different from, where the state is better able to exercise authority (Börzel & Risse, 2015; Mcloughlin, 2015). In Burundi, Stel and Ndayiragije (2014) found that citizens did not expect the government to provide services directly but held it responsible for how other actors, such as NGOs and international donors, implemented water and sanitation programs. When such programs were well implemented, they enhanced service users' impressions of the state.

Second, rural denizens may be concerned that complaints about bad services would result in available services (even poorly delivered ones) being withdrawn; Brinkerhoff and Keener's (2003) informants in rural Madagascar cited this reason for their reluctance to criticize poor services. Service users in remote areas may consider it prudent to stay on the good side of public officials no matter the extent and quality of services that the government delivers.

Finally, if better provision of public services is associated with increases in other government activities that citizens would prefer to avoid (e.g., tax collection, forestry permitting), they may not see a net benefit from the greater state presence that improved service delivery would require. Some of the



**FIGURE 6** (a) Approval, distance and service assessment. (b) Trust, distance, and service assessment

Note. The y-axis is the predicted probability of being satisfied with the relevant government official or trusting the referenced institution. The scale on the y-axis is different in the top- and lower-panels. These predicted probabilities are derived from the results in Appendix Table A3.

literature we cite above supports this interpretation (e.g., Börzel & Risse, 2015; Krishna & Schober, 2014; MeTA, 2014).

As for the links between expectations and perceptions of local and national officials, our findings show that in both urban and rural areas, national leaders would gain more approval from improving services and raising citizen satisfaction than would local officials (Figure 6a). Our models predict

presidents and prime ministers to be about 15 percentage points more popular than local councilors when service assessments are positive. This suggests that national leaders may have greater incentives than local councilors to invest in improving services, though the positive slopes for both sets of officials indicate that there are some incentives to improve services across levels of government. However, such incentives, whether for national or local officials, are mediated by the extent to which those officials are aware of citizens' approval/disapproval, are able to interpret the basis for their ratings, and are motivated to respond to citizens' perceptions. Thus, these incentives may not lead to increased investments in remote areas, as we discuss next.

## 5.2 | Trust in government and service delivery

Our analysis shows trust curves that look remarkably similar for national and local governments (Figure 6b). Rural residents' assessments of government seem less sensitive to poor services than their urban counterparts. This finding suggests that rural citizens' trust in national and local officials is less directly associated with satisfaction with services than urban residents' opinions. For example, in Burundi, Stel and Ndayiragije (2014, p. 11) found that improved perceptions of local officials resulted not from improvements in service quality but "from the fact that 'people from the administration no longer demand money or beer before they address an issue,'" underscoring the very low expectations citizens held of these actors.

If improvements are made and expectations are met, however, citizens often shift quickly to hopes for betterment in other aspects of service provision (Houessou, 2015). Although access may be an initial priority, cost and quality concerns often emerge soon after access is improved (Brinkerhoff, Wetterberg, & Dunn, 2012; McLoughlin, 2015). If relatively high-quality services, readily available at a reasonable cost, become taken for granted—as in many higher income countries—maintaining quality is likely to play a bigger role in citizens' trust in the state.

Such investments in rural areas may be unlikely. As Figure 6a,b shows, both urban and remote citizens hold increasingly positive views of public officials as their satisfaction with services rises. Thus, some performance pressures exist in both urban and rural areas. However, rural residents are less likely to link poor services with negative assessments of officials. Given that investments are more costly in rural areas (due to transport costs for materials and staff, management and oversight, etc), distance may increase officials' disinclination to invest beyond the incentive mediators noted above. They may lack the necessary resources, and they could potentially realize similar (and cheaper) gains in approval from urban investments. To the extent that rural investments might raise expectations, officials may also hesitate to risk losing approval premiums in rural areas, again, subject to the caveats that they are aware of, and sensitive to, citizen opinion.

From a development policy perspective, our results are encouraging insofar as they suggest that when rural citizens have access to services, they judge them as relatively good/equally satisfactory as compared to urban residents' assessments (Figure 4). More discouraging, however, governments may potentially suffer from an incentives gap that could lead to underinvestment beyond the structural constraints of insufficient resources and limited authority that face local governments in many developing countries.

## 5.3 | Citizen demand and accountable service provision

While our reasoning is admittedly speculative, our results call into question a key assumption in the democratic governance policy community that citizen demand is a major driver for governments to provide better services. In our study, citizens in remote, rural locations whose satisfaction with some services was low nonetheless demonstrated higher levels of trust in public officials than urban residents. One explanation is grounded in the neopatrimonialism that exists alongside the formal

democratic institutions in many developing countries. As we noted above, citizens may favor good relations with public officials over complaining about poor services. In neopatrimonial societies, citizens' relationships with powerful patrons, both near and distant, may be more salient than interactions that rest upon a presumption of rights to services (Brinkerhoff & Goldsmith, 2004). Remote citizens perceive government capacity to deliver services to be weak, so quality of services may matter less to them in their judgments of government trustworthiness than the promise of a connection to a powerful actor, however tenuous in the case of the president or prime minister, although possibly more likely with a local official.

Addressing accountability deficits has been shown to be key to improving services, and an extensive literature on the topic has emerged, given a major boost by the World Bank's 2004 World Development Report (World Bank, 2004). A strong thread in this literature sees citizens, either directly or through intermediaries, as exerting pressure on governments and service providers by articulating demand and monitoring service delivery. In particular, local officials are thought to be vulnerable to pressure from underserved citizens to improve services. Our findings, however, suggest that increasing responsiveness and accountability to citizens as a means of improving remote rural services may face more limits than promoters of democratic governance and citizen-centered accountability presume.<sup>23</sup> Since the relationship between dissatisfaction with services and lack of trust is stronger in urban areas, officials may prefer to focus improvement efforts there.

However, the policy implication is not to abandon such efforts, but to pursue complementary interventions to share information that allows rural citizens to benchmark their service experiences and identify where they fall short. One possible option, which has shown some promise, is to collect and make publicly available basic comparative data on provider performance on an ongoing basis.<sup>24</sup> This action can have the dual benefit of increasing citizens' knowledge of what constitutes quality services, and of raising public officials' awareness of provider performance. A more limited version is to try to raise citizens' expectations of service providers by making them aware of minimum service standards to which they are entitled. Such standards can also be the basis for top-down accountability pressures on service providers (see Evans, 2017; Ferrazzi, 2005). Another alternative is facilitating interactions between citizens, local officials, and service providers as a means of generating feedback on service experiences, exploring co-production, and potentially shifting state-society relations (Bukonya, 2016). Despite the challenges of remoteness, our findings on the positive links between service access and satisfaction, and trust suggest potentially fertile ground for building stronger responsiveness and accountability.

## 6 | CONCLUSION

Our study has shown that distant citizens are less likely to have access to government services, are dissatisfied with those government services when they are difficult to access, but also are more tolerant of national and local governments that do a poor job of delivering services. We make three contributions. First, we place the growing body of work on distance and service outcomes under a governance lens. A substantial policy literature finds that citizens' distance to health clinics and schools is associated with poorer outcomes. Less clear has been how that distance and the corresponding poor outcomes translate into attitudes toward government. By showing that rural residents tend to assess government officials and institutions more positively than urban ones, particularly when services are poor, we illuminate how physical distance mediates political accountability. Second, by measuring physical distance between respondents and urban centers, we test a richer notion of political geography and more precisely estimate the gradient of governance. Third, we show the promise of recording geolocations in governance surveys and combining them with a growing stock of physical locations and standard tools of geospatial analysis to reveal insights into the distinctly political features of geography.

Yet even as we demonstrate ways in which physical distance conditions citizens' attitudes toward government, several limitations point to important areas for future work. First, while we have focused on the distance between citizens and towns, it could be that other distances also matter. The challenge is both theoretical and empirical. Theoretically, research on urban bias has not, for the most part, been clear whether the salient distance is to any urban center, the capital of the national government, or perhaps even to the capital of regional or district governments. The urban-bias arguments that emphasize the importance of collective action in cities seem to suggest that any urban agglomeration is relevant. However, more explicitly political arguments would suggest that political capitals are the key urban centers. To the best of our knowledge, little analytical effort has been applied to the question of whether subnational political capitals might trigger a distinctly subnational form of urban bias.

Second, given that distant citizens are less likely to have access to government-provided services and that state capacity seems to decline with increased distance from urban settings, it is important that researchers and policy makers gain a better understanding of the alternative mechanisms through which rural citizens solve problems. Rather than relying on the state, many distant citizens rely on nonstate actors—chiefs/tribes, foreign donors, NGOs, and private providers—for basic services. Recent work linking strong precolonial tribal hierarchies to better contemporary governance and development outcomes (Bandyopadhyay & Green, 2012; Michalopoulos & Papaioannou, 2013; Osafo-Kwaako & Robinson, 2013) and the capacity of contemporary chiefs to promote better service outcomes (Baldwin, 2016) provides a beginning point for examining the role of traditional governance regimes. Still, systematic research is lacking on why some tribal leaders function as “development brokers” while others govern rapaciously. Even less is known about whether and how local citizens are able to hold nonstate actors accountable, even though these are important service providers for many citizens in rural Africa.

Third, our research is both observational and correlational in nature. We have not identified causal dynamics regarding how distance affects citizen–government relations. Physical distance between citizens and capital cities or urban centers is obviously not subject to experimental manipulation, but additional research might creatively pursue causal identification. One could, for instance, combine a panel survey with geolocated physical manifestations of state effort—schools, clinics, government buildings, and so forth—and focus on how newly built projects and corresponding changes in the distance between citizens and their government shape attitudes toward governance. Another possibility would be to focus on how distance to district capitals changes, exogenously perhaps, with redistricting (district proliferation is a common phenomenon in many developing countries; see Grossman & Lewis, 2014), to see whether and how citizens change their perceptions of the state.

The physical geography of government looms large in citizens' lives throughout the world. Poor parents in the United States who live far from schools and do not have a car face hurdles in attending a parent–teacher consultation or a school board meeting. Those barriers are even starker for the world's poorest and rural citizens, who live in countries where the state's reach is limited to distant urban centers. We have made a small step in understanding how physical distance shapes citizen–state relations in such places, but there is much to learn. Extending this research is crucial to crafting policy solutions that overcome the challenges of remoteness.

## NOTES

<sup>1</sup> Some recent studies on urban–rural market penetration have identified spatial inequalities in economic growth, which could potentially proxy for availability of nonstate services (see, e.g., Kanbur & Venables, 2007; Krishna & Bajpai, 2011). However, this analytic avenue remains to be pursued relative to rural citizens' perceptions regarding services.

- <sup>2</sup> While the Afrobarometer has geolocated respondents in later rounds, it has either released only quite aggregated locations or not released locations at all.
- <sup>3</sup> We used a file available from <http://download.geonames.org/export/dump/readme.txt>, accessed February 16, 2016.
- <sup>4</sup> Computations were done using geodetic distances in the “geonear” package in Stata 14.
- <sup>5</sup> Afrobarometer did not collect geolocations for 2005 respondents in Cape Verde, so we exclude it from the analysis.
- <sup>6</sup> The squared term allows for the reasonable possibility that the posited relationships decay in space.
- <sup>7</sup> We were wary of saturating the models with individual-level controls given that many individual-level characteristics are themselves a function of economic geography.
- <sup>8</sup> Services for which these data are available are: post office, school, police station, electricity grid, piped water, sewage system, health clinic, recreation facilities, community buildings, and market stalls.
- <sup>9</sup> Analyses for other services are available from the authors upon request.
- <sup>10</sup> This alternative set of questions followed this example: “Based on your experience, how easy or difficult is it to obtain the following services? Or do you never try and get these services from government: An identity document (such as a birth certificate, driver’s license, passport or voter card)?” This was also asked with reference to “household services (like piped water, electricity or telephone),” help from the police, primary school placement, and obtaining medical treatment.
- <sup>11</sup> The precise question wording followed this blueprint: “How well or badly would you say the current government is handling the following matters, or haven’t you heard enough about them to say: Improving basic health services?”
- <sup>12</sup> The original options were: very badly, fairly badly, fairly well, very well. For convenience, we refer throughout the article to citizens’ satisfaction with services, but we remind readers that the question asks specifically about satisfaction with government handling of services.
- <sup>13</sup> The questions followed the form: “Do you approve or disapprove of the way the following people have performed their jobs over the past twelve months, or haven’t you heard enough about them to say: Your Assembly Man/Woman/Local Government Councilor?”
- <sup>14</sup> The questions followed the form of: “How much do you trust each of the following, or haven’t you heard enough about them to say: Your Elected Local Government Council?”
- <sup>15</sup> For regression results on which Figure 2 is based, see Table A1 in the Appendix and the additional table in Supporting Information.
- <sup>16</sup> These results are robust to self-reported measures of difficulty of gaining access to services. Results available upon request.
- <sup>17</sup> This standard deviation increase equates to going from the 50th percentile of the SES distribution to over the 80th.
- <sup>18</sup> The original options were: very badly, fairly badly, fairly well, very well. We collapsed the four response options into an indicator measure of satisfaction.
- <sup>19</sup> The results appear in columns 4–6 of Table A2 (see the Appendix).
- <sup>20</sup> The tables in the supplementary appendix in the Supporting Information show that these results are robust to the introduction of additional individual-level covariates.
- <sup>21</sup> As described above, a 1 *SD* in SES equates to going from the 50th percentile of the SES distribution to over the 80th. See the results in the Supporting Information.
- <sup>22</sup> Our logic is grounded in the expectation-disconfirmation theory of citizen satisfaction, which posits that satisfaction is a reflection of the difference between the expected service level and the service level that citizens experience (see, e.g., James, 2009; Seyd, 2015).

- <sup>23</sup> Other studies have also raised questions about the extent to which citizens seek to reward or punish public officials based on satisfaction with services. See, for example, de Kadt and Lieberman (2015).
- <sup>24</sup> See the discussion of the role of information in improving performance and accountability in schools in Bruns, Filmer, and Patrinos (2011).

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## SUPPORTING INFORMATION

Additional Supporting Information may be found online in the supporting information tab for this article.

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## APPENDIX

**TABLE A1** Access to services and distance

|                       | Piped water         | Market stall        | Comm. building      | Police station      | Health clinic       | School           |
|-----------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------|
| Distance              | 0.966***<br>(0.001) | 0.981***<br>(0.001) | 0.987***<br>(0.001) | 0.985***<br>(0.002) | 0.994***<br>(0.001) | 1.001<br>(0.002) |
| Distance <sup>2</sup> | 1.000***<br>(0.000) | 1.000***<br>(0.000) | 1.000***<br>(0.000) | 1.000***<br>(0.000) | 1.000***<br>(0.000) | 1.000<br>(0.000) |
| Pseudo R <sup>2</sup> | 0.154               | 0.060               | 0.101               | 0.106               | 0.087               | 0.130            |
| AIC                   | 21308.8             | 23562.0             | 20595.9             | 16402.3             | 22476.3             | 17283.3          |
| N                     | 21,024              | 21,038              | 20,566              | 20,935              | 20,776              | 21,147           |

*Note.* Log-odds with standard errors in parentheses. Country dummies excluded for presentational purposes.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

**TABLE A2** Satisfaction with services, access, and distance

|                                | Health  | Education | Water    | Health  | Education | Water    |
|--------------------------------|---------|-----------|----------|---------|-----------|----------|
| Distance                       | 1.000   | 1.002     | 0.996*** | 0.997   | 1.000     | 1.001    |
|                                | (0.001) | (0.001)   | (0.001)  | (0.002) | (0.003)   | (0.002)  |
| Distance <sup>2</sup>          | 1.000   | 1.000**   | 1.000    | 1.000   | 1.000     | 1.000    |
|                                | (0.000) | (0.000)   | (0.000)  | (0.000) | (0.000)   | (0.000)  |
| Access                         |         |           |          | 1.064   | 1.013     | 2.108*** |
|                                |         |           |          | (0.056) | (0.068)   | (0.107)  |
| Access × Distance              |         |           |          | 1.007** | 1.003     | 1.000    |
|                                |         |           |          | (0.003) | (0.003)   | (0.002)  |
| Access × Distance <sup>2</sup> |         |           |          | 1.000   | 1.000     | 1.000    |
|                                |         |           |          | (0.000) | (0.000)   | (0.000)  |
| Pseudo $R^2$                   | 0.058   | 0.095     | 0.065    | 0.061   | 0.096     | 0.083    |
| AIC                            | 25418.0 | 23308.2   | 26928.4  | 21285.0 | 23060.5   | 22401.4  |
| $N$                            | 20,947  | 20,824    | 20,751   | 20,379  | 20,622    | 20,428   |

*Note.* Log-odds with standard errors in parentheses. Country dummies excluded for presentational purposes.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

TABLE A3 Distance, service satisfaction, and attitudes toward government

|                         | Presidential approval | Local councilor approval | Trust ruling party  | Trust local council | Presidential approval | Local councilor approval | Trust ruling party  | Trust local council |
|-------------------------|-----------------------|--------------------------|---------------------|---------------------|-----------------------|--------------------------|---------------------|---------------------|
| Distance                | 1.006***<br>(0.001)   | 1.003**<br>(0.001)       | 1.010***<br>(0.001) | 1.008***<br>(0.001) | 1.019***<br>(0.006)   | 1.012*<br>(0.006)        | 1.025***<br>(0.006) | 1.015**<br>(0.006)  |
| Distance <sup>2</sup>   | 1.000***<br>(0.000)   | 1.000<br>(0.000)         | 1.000***<br>(0.000) | 1.000***<br>(0.000) | 1.000*<br>(0.000)     | 1.000<br>(0.000)         | 1.000***<br>(0.000) | 1.000*<br>(0.000)   |
| Service Satisfaction    |                       |                          |                     |                     | 1.932***<br>(0.063)   | 1.557***<br>(0.048)      | 1.733***<br>(0.053) | 1.441***<br>(0.043) |
| Service Satisfaction    |                       |                          |                     |                     | 0.997*<br>(0.002)     | 0.998<br>(0.001)         | 0.996**<br>(0.001)  | 0.998<br>(0.001)    |
| × Distance              |                       |                          |                     |                     | 1.000<br>(0.000)      | 1.000<br>(0.000)         | 1.000*<br>(0.000)   | 1.000<br>(0.000)    |
| Service Satisfaction    |                       |                          |                     |                     |                       |                          |                     |                     |
| × Distance <sup>2</sup> |                       |                          |                     |                     |                       |                          |                     |                     |
| Pseudo R <sup>2</sup>   | 0.152                 | 0.081                    | 0.107               | 0.086               | 0.189                 | 0.100                    | 0.132               | 0.099               |
| AIC                     | 18120.1               | 20837.1                  | 21194.7             | 21278.8             | 17058.8               | 20054.1                  | 20200               | 20571.1             |
| N                       | 20,393                | 19,309                   | 20,328              | 19,873              | 20,020                | 18,969                   | 19,949              | 19,486              |

Note. Log-odds with standard errors in parentheses. Country dummies excluded for presentational purposes.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .