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## RESEARCH ARTICLE

# 'And Then He Switched off the Phone': Mobile Phones, Participation and Political Accountability in South Sudan's Western Equatoria State

Mareike Schomerus\* and Anouk S. Rigterink\*

This paper uses qualitative and quantitative original data to investigate the impact of mobile phones in situations of political contestation or conflict. We derive hypotheses from theories in general political science, and on the role of mobile phones specifically. These suggest that a link exists between access to better communication structures, political participation and government accountability. Given such a link, information and communications technologies—specifically mobile phones—could play a positive role in building a more accountable government, and with that, contribute to statebuilding. We examine to what extent these hypotheses hold true for ordinary citizens in South Sudan's Western Equatoria State (WES). Using interdisciplinary methods, we use data gathered through in-depth interviews and a quantitative survey and find little evidence that mobile phone coverage contributes to statebuilding or peacebuilding through a causal link between information, voting, political participation and government accountability. In a situation where administrative structures and mechanisms do not exist for citizens to hold politicians accountable, access to mobile phones might mean greater dissatisfaction with political participation and voting. People living in areas without coverage expressed a deep mistrust of government, and appeared to want to withdraw from the system of government entirely.

## Introduction

In Western Equatoria State (WES), South Sudan, a chief of a *payam* (a cluster of villages) was reflecting on ways to connect to political and administrative leaders in case an issue arose. He owned a mobile phone and its credit had been topped up; he also knew the county commissioner's mobile phone

number. So when one of the villagers had told him about a security threat, the chief had called the commissioner to stress that the village needed help. The phone call did not go as he had hoped. In fact, the call had left him deflated:

I contacted the commissioner, to [ask him to] talk to the [military in the area]. I said to him...My [local protection militia] have no network [so I am asking you if] you can come with the soldiers

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and help. He said, "ok, we'll see" and then he switched off the phone.<sup>1</sup>

The chief never heard back from the commissioner on the issue and when the chief tried ringing again, the call was not answered. Being able to directly call a person with political authority, it turned out, had meant very little. In fact, for the chief it was a poignant reminder that despite an existing communication structure he was not able to effectively communicate with higher authorities—nor did the authorities seem much inclined to engage with him. Having a device that allowed him to communicate had done nothing to help with his real security problem.

This realisation came as a surprise to him—and also goes against much of the existing optimism about the political power of mobile phones (Wasserman 2011). From political theory, we could establish a 'causal chain' connecting access to communication infrastructure with better informed citizens, which in turn increases participation, which makes for more accountable government. This assumes, broadly speaking, that a communication infrastructure improves communication and the level of information amongst citizens, particularly in situations of political contestation or conflict. Better informed citizens, various theories predict, participate more frequently politically, specifically by voting but also by contacting political figures directly. This in turn, could lead to more accountable government, and with that, contribute to statebuilding.

To what extent do these links hold true for ordinary citizens in South Sudan's Western Equatoria State particularly regarding the role of mobile phones? We examine the impact of having access to a mobile phone network to investigate this. Are individuals living in areas with mobile phone coverage more likely to feel well-informed, to hold political and administrative leaders to account, and to vote with a sense of being able to influence political change? We answer these questions using interdisciplinary methods, and analyze

data gathered through in-depth interviews and a quantitative survey.

It emerges that in this case, better mobile phone coverage does not improve governance and does not lead to increased political participation. Instead we find that in a situation where administrative structures and mechanisms do not exist to hold politicians to account, access to mobile phones might be associated with greater voicing of dissatisfaction with political participation. Further, when it comes to voting, access to mobile phones may decrease political participation. People living in areas with mobile phone coverage were more openly frustrated with the experience and long-term outcomes of the elections, and were less likely to say they plan to vote in the future, compared to those living in areas without coverage. Similarly, those living in areas with coverage highlighted the irresponsiveness and particular grievances with government and local political and administrative leaders, but they were more likely to state that they had brought an issue or complaint to specific leaders in the preceding year. Those living in areas without coverage expressed a deep mistrust of government, and appeared to want to withdraw from the system of government entirely.

Thus in WES there is little evidence that mobile phone coverage contributes to statebuilding or peacebuilding through a causal link between information, voting, political participation and accountability of government. Although having access to a mobile phone network may indeed mean that people feel better informed, this sense of being better informed does not appear to translate into more participation in, or more satisfaction with, the voting process. Although access to a mobile phone network may facilitate people calling government figures to account directly, contributing to trust in government, it should be understood that overall trust in and satisfaction with government is extremely low.

The remainder of this paper is structured as follows: the first section provides background

on South Sudan and Western Equatoria State. The second section presents our hypotheses on mobile phone coverage and three outcomes: information, political participation and political accountability. The third section explains our method. Sections four through six present results on the three respective outcomes from qualitative and quantitative analysis. The final section concludes.

## **Background**

### ***Western Equatoria State***

WES occupies South Sudan's southwestern corner. The area is extremely fertile but suffers from severe underdevelopment: passable roads are almost non-existent, as are reliable schools and health services for large parts of the population. The information infrastructure is limited; radio is by far the most common source of information although reception across the state is patchy. When asked what their communities need, respondents in open-ended interviews tended to list infrastructure requirements with an emphasis on health and education, closely followed by the need for roads and clean water. Yet they also often mentioned the need for a good mobile phone network, or preferably several mobile phone network providers to avoid outages. The lack of a good network is clearly a source of frustration, as is the cost of airtime and inability to afford a handset. In remote areas, owning a mobile phone is beyond reach for most people.

South Sudan became independent in 2011, after a referendum on self-determination that had been provided for in the Comprehensive Peace Agreement negotiated between the Government of Sudan and the rebels of the Sudan People's Liberation Army (SPLA). The Sudan People's Liberation Movement (SPLM)—the political wing that emerged from the SPLA—is the dominant political party. Before the referendum, in which only Southerners were allowed to vote, elections were held throughout all of Sudan in 2010. Although international criticism of these elections was subdued, they were considered as

problematic (Willis 2011). Sudan, and now South Sudan, have been the focus of intense international engagement; often this engagement has focused on building peace and improving governance (d'Errico et al. 2014). These have been challenging endeavours in South Sudan, with the applicability of commonly deployed notions of peace- and state-building questioned (Lacher 2012; Schomerus and Allen 2010; Young 2012). Of crucial relevance to this paper is the often-repeated notion that infrastructure—communication infrastructure tends to be specifically mentioned—has a part to play in building South Sudan's peace, linking communities and facilitating political processes that help prevent violence (Jok 2014; Jok 2012).

Bordering the Democratic Republic of Congo (DRC) and the Central African Republic (CAR), WES has experienced little direct fighting during Sudan's civil wars. Yet it has been heavily affected by repercussions of war through displacement of people from WES or people into WES and communal violence. More recently, Uganda's Lord's Resistance Army (LRA) had a settled presence near WES from 2005 to late 2008 (Schomerus 2007). Particularly in 2008 and 2009, the LRA also committed violence against civilians in WES, with more sporadic incidents in the following years. A military operation against the LRA involving international troops has maintained a high sense of insecurity and militarization (Gordon et al. 2007; Atkinson 2009; Schomerus and Tumutegyeize 2009; Schomerus 2012; Schomerus and De Vries 2014; Rigterink et al. 2014). The question of the positive role of mobile phones in increasing political accountability has to be seen particularly in connection to the former presence of the LRA. One of the local population's grievances against the central government is the lack of protection that government troops provided against the LRA; in fact, government reactions to what was at the time a very real security threat were seen as deliberately subdued (Schomerus and De Vries 2014). Some negative attitudes towards

mobile phones that we encountered need to be seen in this context: A few respondents argued that people with bad intentions—i.e. planning to attack—used phones to communicate and coordinate their actions, thus also making life more dangerous.

The link between the population in WES and the central government in Juba is at best tenuous, and more realistically, virtually non-existent. Elections were held in 2010 for the then southern Sudan assembly, during which people in WES elected representatives. However, an often-heard complaint is that the thus elected representatives—regardless of whether they shared the same ethnicity—had left the area and had not visited again since they had been elected and now could not be contacted. Having a parliamentarian of one's own ethnicity thus did not strengthen a feeling of being represented; strong support for the reinstatement of the areas as a kingdom overseen by the Zande King is also fed by this sentiment (Schomerus 2014). A further often-repeated grievance is the government's lack of action towards improving the local infrastructure, thus failing to establish a sense that South Sudan is on a path towards peace and change.

Local political and administrative figures include those at *boma* (village) and *payam* (cluster of villages) level. At both levels, there is usually a chief and an administrator. The former is commonly considered to be a government, and the latter a 'traditional,' leader, although chiefs are an official part of the government and at least in theory receive a government salary. The individuals who fill these four positions are usually well known in their areas, so people could conceivably talk to them directly without the use of mobile phones.

### Theory, Literature and Hypotheses

This paper investigates a number of hypotheses about the role of mobile phones in spreading information, encouraging political participation and facilitating accountability of politicians. These stem from theoretical and empirical literature. First, and most

obviously, mobile phones are thought to facilitate the spread of information. This has been investigated most thoroughly for the economic arena: better information on prices of goods and waiting times at markets could enable markets to operate more efficiently (e.g. Abraham 2006). Empirically, mobile phones have been found to enable farmers (Aker 2010) or fishermen and women (Jensen 2007) to find a market faster for their produce and to establish where they can get the best price. The role of mobile phones in the political sphere has received less attention, although some authors suggest that in the African context mobile phones help to spread political information and help build networks, both of which are seen to break down hierarchies (Wasserman 2011). In some cases mobile phones are thought to contribute to rapid awareness of particular concerns (e.g. SARS in China). Information received via mobile phones might be perceived as particularly trustworthy because the sender of the information is known (Hermanns 2008). Therefore, the first hypothesis we investigate is:

*H1.1: Availability of a mobile phone signal is associated with higher (perceived) quality of information individuals have about non-personal matters.*

Increased availability of information is, in turn, thought to be related to political participation. Although political participation can take many forms, including attending political rallies, campaigning for a political candidate or signing a petition, we focus on one of the most consolidated measures in political science: voting. This might seem a very narrow measure of participation; however, in combining quantitative and qualitative data on voting we are able to contextualise this measure for WES, where the meaning of voting is not necessarily that of an individual expression of an opinion.

Theoretical models suggest that more informed citizens are more likely to vote. Feddersen and Pesendorfer (1996) use game theory to detail how uninformed voters abstain to maximize the probability that the 'swing voter' will be an informed voter.

Matsusaka (1995) arrives at the a similar prediction using a rational choice model, suggesting that a rational voter derives greater utility from the act of voting if he/she is more confident in his/her choice (Matsusaka 1995). Sobbrío (Forthcoming) reviews numerous empirical studies that indeed show that information is related to voter turnout. Aker, Collier and Vicente (2013) specifically study the case of mobile phones in Mozambique. They conclude that an intervention sending individuals text messages containing information about upcoming elections made the election process more transparent and increased voter turnout (Aker et al. 2013). This suggests a second hypothesis:

*H2.1: Availability of a mobile phone signal is associated with a higher probability that eligible individuals have voted or will vote.*

Greater voter participation is one way to hold political leaders accountable. However, mobile phones may also facilitate accountability directly by providing people with the information needed and/or the means to contact political or administrative leaders with their concerns. This could translate into greater satisfaction with the response of the political leader. This link has not been extensively investigated for mobile phones, especially in the context of a developing country, although enthusiasm for the possibilities is great. Rotberg and Aker, for example, claim that 'mobile phones are revolutionizing politics and driving political change throughout the developing world' (Rotberg and Aker 2013). Such passion is not always shared and skepticism about the sweeping effect of mobile phones on political development has also been voiced (Alozie et al. 2011). However, there is ample evidence that consumption of information via 'traditional' media (newspapers and television) and via the internet is related to political involvement in the US context (see Campbell and Kwak 2010 for an overview). It is also commonly found that information improves accountability (Pande 2011). Furthermore, Campbell and Kwak (2010) find that those who use their mobile phone more are more

likely to engage in specific forms of political engagement, including contacting a public official or a political party, in the context of the US.

The act of exercising 'voice' in itself may increase trust in and satisfaction with a political leader. This supposition is supported by theoretical work (Bos et al. 1998) and empirical studies in a laboratory setting (Cremer and Tyler 2007). The latter authors, for example, set up an experiment in which a leader makes decisions for a group of subjects. They find that subjects who are given the opportunity to voice their opinion are more satisfied with the leader's decision and judge the leader to be more trustworthy than subjects without 'voice,' even though the actual decision taken is the same for both groups. Again, empirical evidence outside a laboratory setting, let alone in a developing country, is rare. However, Bailard (2009) finds evidence for a link between mobile phones and perceived accountability: increased availability of cell phone towers across Africa, and in Namibia specifically, is associated with decreasing levels of perceived corruption. Other research on mobile phones, specifically for South Sudan, has included the importance of mobile phones in collecting data (Demombynes et al. 2013). Furthermore, findings from Tanzania suggest that better data—collected through mobile phones—can increase public accountability; a crucial finding, however, is that simply making data publicly available is not sufficient for increased accountability (Croke et al. 2013).

This gives us our final set of hypotheses:

*H3.1: Availability of a mobile phone signal is associated with a higher probability that an individual has contacted a political or administrative leader directly.*

*H3.2: Availability of a mobile phone signal is associated with greater satisfaction with the response of political or administrative leaders when contacted.*

*H3.3: Availability of a mobile phone signal is associated with greater trust in political and administrative leaders.*

## Methods

The paper utilizes interdisciplinary methods, using empirical data consisting of semi-structured interviews and group meetings (referred to as qualitative data), and a survey of individuals (referred to as quantitative data). The two authors carried out both types of research in roughly the same geographic areas (see **Table 1**) over the same two-month research period.

### *Sample and questionnaire design*

The quantitative survey of individuals covers Ezo County and the two southern-most *payams* of Tambura County. We randomly sampled seven *bomas* in Ezo and three *bomas* in Tambura. Within these *bomas*, households were randomly selected from a list of all households in the village drawn up by the village headmen. Within the sampled households, the respondent to the survey was randomly selected from a list of individuals over 18 years living in the household, drawn up in collaboration with the household head. The total sample consists of 433 respondents, an estimated 4.3 per cent of the total adult population in sampled villages.

The survey questionnaire included questions on basic demographics; willingness to contribute to public goods; attitudes towards various political leaders and the central government; perceptions of security; and access to information and its perceived quality. The authors designed the questionnaire with substantial input from four South Sudanese researchers. All questionnaires were administered in Pazande by enumerators living in Ezo and Tambura Counties. A native Pazande speaker translated the original English questionnaire; accuracy of the translation was checked during a workshop with the enumerators and during various small pilots in the region. More information on the survey can be found in the survey report (Rigterink et al. 2014).

We conducted a total of 70 qualitative interviews during two visits, in December of 2012 and in April and May of 2013, not all of which are directly referred to in this paper.

Interviews took place in seven out of the ten villages covered by the survey; three villages are only covered by qualitative interviews. We selected interviewees because they hold a position of authority—for example as a chief, administrator, spiritual leader—because they represent a particular group—such as displaced persons, women, people affected by illness—or because we encountered them in day-to-day interactions. Often, interviews were done in a community meeting setting, with dozens of people gathering generally for several hours. We conducted interviews in English, the local language Pazande and French. A translator translated interviews in Pazande on the spot. In the qualitative interviews, we asked no direct questions about how people viewed the usefulness of mobile phones for political participation. Rather, we asked separately about the importance of mobile phones and about the reality of political participation and accountability. In some instances, these themes came up without prompting.

## Operationalization of concepts

### *Mobile phone coverage*

Mobile phone coverage was observed firsthand during the visits of the survey team. This team visited each village for a minimum of three days. We distinguish between three categories:

1. 'No coverage' if there is no mobile phone network at any time or location in the village. In the analysis of the quantitative data, this is the omitted category.
2. 'General coverage' if the network in the village is good enough to make a call in a substantial part of the village (usually along the main road). In the quantitative analysis this is a dummy variable equaling one.
3. 'Sporadic coverage' if phone coverage is present in the village at one or two select points. For example, it is not unusual for people to know or mark particular locations (e.g. a small

Boma	Level of mobile phone coverage	County	Covered in quantitative survey?	Type of qualitative interview
A	Sporadic	Ezo	YES	none
B	General	Ezo	YES	Two-hour community meeting with 40 participants (women, men, youth)
C	Sporadic	Tambura	YES	Community meetings with women, Arrow Boys, Youth, refugees from the Central African Republic, general community meeting with about 200 participants
D	None	Ezo	YES	Community meeting with 50 participants
E	General	Ezo	YES	Three interviews with chief, elders
F	Sporadic	Tambura	YES	Three interviews with residents, interview with group of young men
G	General	Tambura	YES	Interview with chief and elders
H	None	Ezo	YES	Three interviews with elders, women, and Arrow Boys
I	None	Ezo	YES	none
J	None	Ezo	YES	none
K	General	Tambura	NO	9 interviews with spiritual leaders, women, people affected by illness, individuals
L	General	Ezo	NO	16 interviews with individuals, government administrators, chiefs
M	General	Tambura	NO	11 interviews with chief, youth, women's association, government administrators, individuals

**Table 1:** Overview of villages covered in quantitative survey and qualitative interviews.

hill) with coverage. In the quantitative analysis this is a dummy variable equaling one.

Out of the ten villages surveyed, three were classified as having general coverage, another three villages as having sporadic coverage, and four villages had no coverage at all. An overview of villages covered in the survey and by the interviews respectively, and their level of mobile phone coverage, can be found in **Table 1**.

Both of our measures of mobile phone coverage are correlated to household phone ownership as measured by the survey (correlations are significant at the 0.01 per cent level). The average number of phones per household ranges from 0.39 to 0.52 in

villages with general coverage, from 0.16 to 0.27 in villages with sporadic coverage and from 0.02 to 0.18 in villages without coverage. Overall, approximately one third (a weighted 31.2 per cent) of the households surveyed owned at least one mobile phone. We did not explicitly ask respondents for the type of mobile phone owned, i.e. whether it was one with only basic functionality (calling, texting), a feature phone (having basic multimedia and internet capability) or a smart phone. Hence, it is possible that respondents own a phone capable of accessing information via the internet. However, 3G internet connectivity was extremely poor throughout the research area when research was conducted our team was not able to access the internet in any of the research locations.



Furthermore, it is possible that respondents use their phones to receive a radio signal. However, mobile phone coverage and radio coverage do not appear to be positively correlated; the correlation coefficient between an indicator for general coverage and the quality of the reception of the main radio station broadcasting in Pazande (Yambio FM) is negative. In qualitative interviews, the use of mobile phones to connect to the internet or the radio was not mentioned. Hence, we consider it most likely that any impact of mobile phones observed is due to people using their phone for calling or texting purposes.

### **Quality of information**

We take people's perception of how well informed they are as an indicator for the quality of information. In the survey, this is measured by the extent to which they agreed or disagreed with a series of statements, on a four-point scale (strongly disagree, disagree, agree, strongly agree). These statements were: 'I have good information about what happens in (a) my community; (b) WES; (c) CAR and DRC; (d) Juba and South Sudan; (e) the rest of the world.'

### **Political participation: voting**

As highlighted earlier, we take voting as one indicator for political participation. Respondents were asked whether they had voted in the national elections in 2010 and in the referendum on the independence of South Sudan in 2011. They were also asked whether they were planning to vote in the next national elections. We did not specify when these would take place, as this was uncertain at the time. Answers were recorded on a dichotomous (yes-no) scale.

### **Accountability: trust, direct contact and satisfaction with response**

We employ a number of indicators of political accountability, in line with the hypotheses presented: contacting a political or administrative leader directly, satisfaction with the response of that leader and trust in the leader. We focus on four local leaders:

the *boma* administrator, *boma* chief, *payam* administrator and *payam* chief. Respondents were asked how often they trusted each leader and indicated their answer on a four-point scale (never, rarely, sometimes, always). The second indicator is a dummy variable equaling one if the respondent reports that he/she has brought an issue or concern in front of each leader respectively in the last 12 months. Lastly, we asked respondents who had brought an issue or concern in front of a leader to what extent they were satisfied with that leader's response. We capture strong dissatisfaction through the description 'the leader did not help, did not treat the respondent fairly or listen at all' while moderate dissatisfaction was captured by the answers 'the leader helped, treated the respondent fairly or listened a bit' (but not fully). Respondents who stated that 'the leader helped a lot, treated the respondent completely fairly and listened fully' were considered to be satisfied with the leaders' response.

### **Control variables**

All quantitative analyses include basic demographic control variables: the age of the respondent, years of education completed, and three indicators for household wealth (number of chickens, goats and bicycles owned). Because the latter variables are measured at the household level, we also include the number of children and adults in the household.

Furthermore, in all analyses we control for village-specific characteristics related to both the placement of cell phone towers and individual political participation. Of particular concern is the degree of isolation. A study investigating factors related to the placement of cell-phone towers concludes that population size, income, distance to a main road, travel time to the nearest city, elevation and ruggedness are the major determining factors (Buys et al. 2009). Therefore we include the following as control variables in all regressions: number of households in the village, a dummy variable for whether the village is situated on the main road, the

straight-line distance to Yambio (the state capital) and the capitals of both counties under investigation, and village level average household ownership of chickens and goats. Elevation differences in the area under research are minor, and therefore not likely to be of importance. Despite these attempts to hold as many intervening variables as possible constant, we cannot exclude the possibility that other factors exist that drive both cell phone tower placement and individual outcomes, biasing our analysis. However, our area of research is relatively small and isolated overall, with a diameter of less than 125 kilometers as the crow flies, and all villages are more than two days travel by car away from the South Sudanese capital Juba. Hence, all villages included in the analysis could be considered isolated.

#### Analysis

Quantitative data was analysed using regression analysis, employing ordered logit regression in the case of an ordinal dependent variable (quality of information, trust) and logit regression for binary dependent variables (voting, satisfaction with response, contacting leaders). Similar results were obtained using (ordered) probit regression (not shown). Our explanatory variable of interest is village-level mobile phone coverage. Standard errors are clustered at the village level.

Since our research strategy aims to draw conclusions on the effect of mobile phones by comparing individuals living in villages with different levels of mobile phone coverage, ideally these villages are similar across other, intervening aspects. About this, we note the following. First, we recognize that ethnicity plays an important, often controversial role in South Sudanese politics. The population within our area of research is fairly ethnically homogenous: taking mother tongue as an indicator of ethnicity, 92.5 per cent of the respondents to the survey identified themselves as Azande. Second, we use village-level mobile phone coverage, rather than individual mobile phone ownership,

as our main explanatory variable of interest. Individual mobile phone ownership is plausibly related to individual characteristics, such as wealth, education and inclination to travel outside the village; these characteristics are in turn likely related to our dependent variables of interest. Since proximity of a cell phone tower determines mobile phone coverage, this is less subject to such biases. In addition, all analyses presented control for household asset ownership as an indicator of wealth and individual level of education. Third, as highlighted above, we control for a number of village-level factors known to determine the placement of cell-phone towers.

Qualitative interviews were coded using MAXQDA. Interviews were organized according to the three categories of mobile phone coverage. Within the interviews, we coded text that mentioned (a) quality of information; (b) voting or elections; or (c) ways of connecting or holding to account central government or local leaders. We then mapped out the coded text, first looking for patterns in each separate location. Finally, we compared how these patterns differed across the three categories of mobile phone coverage. Where interviews quoted directly have been lightly edited for clarity, this is indicated by square brackets.

#### Mobile Phones and Information

We examined if people who live in villages with mobile phone coverage indeed feel better informed—this corresponds to our hypothesis 1.1. **Table 2** shows the results of an ordered logit regression with perceived quality of information as a dependent variable and two levels of mobile phone coverage as explanatory variables in addition to a full set of control variables.

A number of interesting patterns emerge from the quantitative data. Looking at **Table 2**, mobile phone coverage is indeed positively related to how well informed individuals perceive themselves to be. Coefficients obtained on phone coverage are positive and strongly significant. Judging by the size

	(1)	(2)	(3)	(4)	(5)
'I have good information on what happens in...'	Community	Western Equatoria State	CAR and DRC	Juba and South Sudan	The rest of the world
	ologit	ologit	ologit	ologit	ologit
General phone cover	8.191*** (1.345)	12.26*** (1.747)	-3.888*** (0.626)	15.15*** (1.701)	16.45*** (2.164)
Sporadic phone cover	6.082*** (1.087)	9.105*** (1.314)	-0.896** (0.443)	10.08*** (1.185)	11.33*** (1.378)
Gender	0.104 (0.245)	0.275 (0.316)	0.387 (0.273)	0.279 (0.267)	0.0536 (0.295)
Age	-0.00399 (0.00588)	-0.0154 (0.0109)	-0.00265 (0.0105)	-0.00739 (0.00809)	0.00227 (0.0100)
Education	0.0637 (0.0396)	0.0118 (0.0421)	-0.00176 (0.0336)	-0.00597 (0.0347)	-0.00902 (0.0414)
# adults in household	-0.135 (0.108)	0.0269 (0.128)	-0.0146 (0.133)	0.165* (0.0864)	0.132*** (0.0446)
# children in household	0.0978 (0.0661)	-0.0177 (0.0798)	0.0392 (0.0400)	-0.0391 (0.0288)	-0.0614* (0.0369)
# chickens hh owns	0.00977 (0.00764)	0.00133 (0.00749)	-0.00141 (0.00658)	-0.0119 (0.00829)	-0.00971 (0.00639)
# goats hh owns	-0.0139 (0.0132)	-0.0197 (0.0146)	-0.0202 (0.0172)	-0.0150 (0.00976)	0.00567 (0.00706)
# bicycles hh owns	-0.153 (0.137)	0.191* (0.109)	0.312** (0.123)	0.259* (0.134)	0.171** (0.0773)
Village hh population	-0.0223*** (0.00352)	-0.0289*** (0.00424)	0.00916*** (0.00157)	-0.0367*** (0.00413)	-0.0423*** (0.00555)
Village on main road	1.811*** (0.362)	2.352*** (0.357)	-1.451*** (0.293)	2.720*** (0.369)	2.917*** (0.362)
Distance to Yambio	40.58*** (6.719)	51.09*** (7.833)	-15.52*** (2.823)	61.54*** (7.110)	69.63*** (8.968)
Distance to Ezo	19.59*** (3.100)	23.63*** (3.722)	-8.354*** (1.405)	30.49*** (3.555)	34.82*** (4.662)
Distance to Tambura	35.57*** (6.428)	49.37*** (7.580)	-9.043*** (2.570)	55.16*** (6.459)	62.24*** (7.753)
Avg. # goats owned in Village	-3.737*** (0.623)	-4.608*** (0.775)	2.516*** (0.301)	-6.721*** (0.758)	-6.760*** (0.986)
Avg. # chicken owned in village	-0.703*** (0.107)	-0.816*** (0.125)	0.143** (0.0599)	-0.958*** (0.110)	-1.110*** (0.164)
Observations	423	418	391	396	379
Pseudo-R <sup>2</sup> (McFadden)	0.0488	0.0892	0.0726	0.0951	0.0903

Robust (clustered) standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

**Table 2:** Mobile phone coverage and perceived quality of information.

of the coefficients, this effect is stronger for those villages with general phone coverage, but also applies when phone coverage is only sporadic. These results are obtained for all five types of information, with the exception of information on what is happening in the CAR and DRC. In addition to mobile phone coverage, perceived levels of information are mainly associated with village-level variables.

Individual characteristics such as gender, age, education and ownership of most assets are not significantly related to how well informed someone feels. An exception is the number of bicycles owned by the household; those individuals living in a household with more bicycles feel better informed, plausibly because these individuals can travel more easily. Looking at the village-level variables, it appears that information is perceived to be better in villages on the main road, as expected. However, the other village-level control variables have unexpected signs. People in more populous villages feel less well informed, people in villages far away from the larger towns of Yambio, Ezo or Tambura feel better informed, and people in villages richer in terms of goats and chickens owned feel less well informed. Thus, the assumption that people living in larger, richer or less remote population centers perceive themselves to be better informed does not hold true.

The qualitative data tells a similar, if somewhat more nuanced, story: While broadly speaking people in areas with general coverage acknowledge their lack of information, they see this as a shortcoming of the structures in which they find themselves. In stark contrast is a common sentiment in areas with no coverage: here lack of information seems to create active distrust and the belief that the government withholds information on purpose. We thus find that people with general coverage tend to assess their situation in a more nuanced and less disillusioned way, even if they do not feel that their access to information is adequate.

#### Information in Areas with General Coverage

In the areas with general coverage in which we conducted both the survey and qualitative interviews, mobile phone networks were seen as a useful source of information. Further, respondents also in areas with general coverage but where we did not gather quantitative data specifically mentioned their lack of information on particular topics; they did not feel that the quality of information on security issues, for example, was good. Often respondents' answers were framed around a lack of access to information. In a *payam* centre close to the border, respondents talked about feeling disconnected from what was going on in the county centre and what was being decided regarding resource distribution, deployment of military forces or development projects pursued. They expressed their ignorance about some of the broader rules that applied elsewhere in the country, stating specifically that this was due to not having the information delivered to them in an accessible way: 'There is no one coming from the government telling us what the law is.'<sup>2</sup> Respondents saw sources of information as deficient; this was true for government administrators who felt relying on word of mouth was not good enough for them. In a village close to the county headquarters, respondents stressed their lack of information of what was happening on the state level: 'We have limited ideas about issues to do with Yambio, we are only aware of what is happening in our own boma.'<sup>3</sup>

Thus, even in areas with general coverage, people did not necessarily feel well informed. In a more remote small town near the CAR border (with general coverage), one woman explained that being at the border meant that other women in the county centre did not realise that in the villages they also had a women's association and were in need of resources. Being able theoretically to communicate across the distance seemed to do little to alleviate the sense of being disconnected.<sup>4</sup> In an area with very good road connections—conditions that imply that access

to information is good—one respondent linked his lack of information directly to his status as being a powerless individual in the government and personal hierarchy.<sup>5</sup>

### ***Information in Areas with Sporadic or No Coverage***

Some of the areas with no coverage are extremely remote, described quite aptly by one respondent from a village near the border as 'They have no other source of information apart from their neighbours in DRC.'<sup>6</sup> In such areas, people spoke about their lack of information in a more conspiratorial way, i.e. as if there was a specific policy of secrecy behind it. Because people could see planes passing overhead—which might be passenger planes, World Food Programme planes, or military aircraft—they were deeply suspicious about the reasons for the air traffic: 'And what is beating our understanding is all the planes flying into the bush. What are they looking for? Planes you cannot recognise if they are [South Sudanese army] or [Ugandan army], that is also why we don't trust our government.'<sup>7</sup>

These feelings seemed exacerbated by the fact that few government representatives ever visited, thus both person-to-person communication, as well as phone communication, were non-existent: 'Apart from [the] chief no one has come to see us since [the] LRA first attacked. Despite the fact that we lost people [who were killed] and people are [still] missing, nobody has come to say condolences. Neither the MP, neither the *payam* administrator, paramount chief, nor [the] commissioner.'<sup>8</sup> Thus, another common theme was the lack of continuous connection to outsiders or representatives of authority. From this also emerged a concern about the one-sidedness of information sharing. The sporadic nature of outside engagement—including of government officials—was a common reason for distrust.

Respondents in interviews repeatedly made the point that they had no way of checking whether the information they were providing was being used correctly, i.e.

without distortion of what they had said. As one person summed it up: 'Now I am keeping quiet because I have not seen any good come out of giving information.'<sup>9</sup> Further, this distrust in the one-sidedness of information also seemed to stem from the perception or experience that the government was treating information casually: 'So [people asking us questions] can change the information just like the government is doing.'<sup>10</sup>

In areas with sporadic coverage, respondents were often categorical in their negative assessment of the usefulness of phones. Rather than acknowledging that they had some access to mobile phone networks, respondents stressed that there was only one network (requesting that other providers would come in). Further, they argued that there was no contact between them and other communities because they had no mode of communicating. At times, respondents categorically stated—incorrectly—that a phone network was not at all available.<sup>11</sup> In an area with no coverage, a group of elders highlighted that this deficit increased their vulnerability. They gave two reasons: lack of network meant they could not communicate problems to their *payam* headquarters and because information and warnings could not reach them.<sup>12</sup>

### **Mobile Phones and Voting**

We have previously established that individuals living in areas with mobile phone coverage feel better informed or have a nuanced view of their information situation; but crucially, this access to information does not create a sense of holding much power. Does the feeling of being better informed translate into a higher probability that they will vote (hypothesis 2.1), especially if people feel disempowered? Overall, voter participation in WES is very high. The (weighted) percentage of people who voted in the 2010 elections and the 2011 referendum on independence is 88.3 per cent and 92.2 per cent, respectively, and 80.8 per cent of respondents plan to vote in the next national elections. This limited variation leads to lack of convergence

	(1)	(2)	(3)
<b>DEPENDENT:</b>			
<b>Voted / plans to vote in...</b>	<b>2010 elections</b>	<b>2011 referendum</b>	<b>Next national elections</b>
	<b>logit</b>	<b>logit</b>	<b>logit</b>
General phone cover	-20.92*** (3.022)	-18.88*** (2.914)	-8.044*** (2.026)
Sporadic phone cover	-22.59*** (0.470)	-22.46*** (0.647)	21.50*** (0.467)
Constant	118.73	102.21	-91.76
Observations	429	426	405
Pseudo- $R^2$ (McFadden)	0.3264	0.2466	0.3023

Robust (clustered) standard errors in parentheses. All control variables are included; coefficients are omitted for brevity.

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

**Table 3:** Mobile phone coverage and voting.

when estimating the logit regression, and coefficients and standard errors reported should be considered less accurate than those normally obtained.

Nevertheless, **Table 3** presents the results of a logit regression taking voting as a dependent variable, and phone coverage and a full set of controls (coefficients omitted for brevity) as explanatory variables. The results appear to suggest that, in contradiction to the hypothesis proposed, village mobile phone coverage is negatively associated with the probability that inhabitants of that village will vote or will have voted. The only exception is the relationship between sporadic phone coverage and intention to vote in the next elections. Overall, however, it would appear that those people living in villages with mobile phone coverage are less likely to say that they have voted in the previous election, or will vote in the next election. The qualitative interviews suggest a possible reason behind this: the more access to a mobile phone network people had, the more nuanced they were in their description of the voting experience and their assessment of the exercise as futile. What was striking about the remarks on voting and the outcome of elections across all sites was an absence of the language of empowerment:

respondents did not talk about their electoral participation as an act of being a politically responsible citizen and being able to influence actions of their elected representatives. Being better informed meant that people were in fact more skeptical, particularly when it came to the usefulness of voting. This result contradicts hypothesis 2.1, which is based on theories and empirical research that better informed people tend to be more inclined to vote. Alzouma (Forthcoming), makes a similar point: it is not clear that just because a particular technology is available, people will use this technology to participate in democratic processes. This holds true especially when respondents perceived these processes to be flawed.

#### ***Voting and Areas of General Coverage***

In areas with general mobile phone coverage, a striking pattern emerged when people spoke about how they viewed elections. A number of respondents reflected on the bruising experience of elections in WES: 'There were two candidates, but there were reports that they burnt the ballot papers, [there was] fighting, [and] arrest[ing] people. That made me feel not so good.'<sup>13</sup> Others recounted their personal experience of being put under pressure during the elections. A member of

Jehova's Witnesses—a group that was publicly shamed and had their Kingdom Hall burned down when they attempted to act according to their faith and not vote in the referendum—recounted how he and his fellow members had to pretend they were voting, but in reality spoiled their ballot deliberately: 'At the time they said [that] those who did not vote for the referendum, they are guilty. We thought something may happen to people [who didn't vote], but it did not... The government reaction was not good. [The government] was telling everyone to vote.'<sup>14</sup>

Others remembered how the elections divided people, particularly if candidates sought support along ethnic lines: 'Before people were living in harmony, but political issues have divided [them]. Politicians want to secure their position, so they come and divide people. During elections, some people here vote for Nagero [a neighbouring county] and those in Nagero voted for Tambura [county]. They convinced people [by] paying people. If you hear people talk about conflict between Balanda [who primarily live in Nagero] and Tambura, that is the root cause.'<sup>15</sup>

One respondent, who passionately defended his 'right to vote, to choose leaders whom [he] want[s] ...to contest' and his right to have his 'voice to be heard by the government', outlined why the elections had not managed to grant him these rights. Instead, he emphasised that during elections, actual choice was curtailed by emphasis on voting only for the SPLM and lack of understanding: 'The star was [the] emblem of the SPLM. But beside[s] the star, nobody know[s] who [else] is there. The citizens were not taught how to vote. There was no rally; people were supposed to be sensitised what it means to vote. So it was a mess.'<sup>16</sup> Another person related the troubling experience of the elections to the desire to appoint, rather than elect, a king for the Azande: 'There will be no elections. This [appointing, rather than electing] is the part of our culture we want to keep. [But, p]art of the government is saying this

king should be elected, so this is where conflict comes.'<sup>17</sup>

A chief recounted how he had felt that the elections had been manipulative: 'At times these politicians use people, at times my MP can even use me to let me deceive my people to stay in power. That is what we don't want.'<sup>18</sup> Or, as another respondent put it, creating a stark contrast between presumably a less-than-credible election and a genuine election: 'The governor was elected but... the king will be chosen by the people.'<sup>19</sup>

Lack of credibility of the electoral process—including the assumed built-in accountability procedures—was also cited by a group of young men in a county head-quarter with general coverage. They particularly emphasised how disappointed they had been with the conduct of their elected representatives:

A good leader should advocate for his people. Other leaders here were just elected but they don't know how to do that work. You need to talk with other people because if elections come you can even be reelected. But here it does not happen. People get elected; they consume, and they just remain there...Elections were [a] good idea because if the people we elect are not doing well, it will be a lesson to us. Next time I think we need to elect a good leader. We will know who is a good leader through qualifications...I don't know if the government [will make] rule[s] for the next election. Are you really qualified for that post? Some of [the candidates] are not qualified, they don't even know how to talk with [the] public. Some MPs they just go and sit; they have nothing to say about their constituents. But they get money for sitting [there]. But last election people who ran for office were told "'if you can read, you can write.'" That is what is going to keep us poor until we die.<sup>20</sup>

### ***Voting and Areas of Sporadic or No Coverage***

In areas with sporadic or no coverage, comments on the elections were sparse; the few comments we received lacked the nuance of precise reasoning why the elections had been so troublesome. Markedly, the focus here was less on the process of elections and rather on the disappointing behaviour of elected individual officials or their failure to achieve improvements. One striking comment—which also expresses the hostility felt towards the government—was made in a community meeting in an area with sporadic coverage. Respondents explained 'we elected this person but since we elected him, he has not come back, so we think he has been bought by the government. But we raise our voice from here, wrote to *payam* administrator that we need by-elections because the guy has never [come] back.'<sup>21</sup> In areas with no mobile phone coverage, we heard no comments on the electoral process as such, but disillusionment with the outcomes was palpable—particularly the lack of engagement of the elected officials was noted.<sup>22</sup>

Areas without coverage tend to be particularly vulnerable and exposed to possible attacks. Thus respondents had more tightly connected voting for a representative with having those problems solved. One said 'It was said that people will vote for people who can take their problem ahead.'<sup>23</sup> In one area with no coverage, it was particularly noted that the former governor had to be voted out of office because she had publicly denied that there even was a security problem: 'It was good that she was not re-elected. Otherwise we would all be dead.'<sup>24</sup>

### **Mobile Phones and (Direct) Political Accountability**

Listening to how people describe their own capacity to hold politicians to account, we find a similar pattern as we did when talking about voting: In areas with general coverage respondents' description of their expectations and disappointments was a lot

more precise than in areas without coverage. Across the sites there seemed to be little difference in how empowered people felt towards being able to hold their leaders to account. The quantitative findings, outlined further below, shed light on the generalisability of these findings.

### ***(Direct) Accountability in Areas with General Coverage***

It seems as if the general availability of a network—even an unreliable one—had no influence on the feeling of being able to connect to authorities. Rather, contact to higher authorities was seen as having to be mediated through a hierarchical chain. The people in the chain and how they behave was much more important than the handset and the network that allows connecting to them. This is in line with Asiedu (2012) and the African Research Institute (2011) findings about the importance of humans over technology (Bhalla 2011; Asiedu 2012). In areas with general coverage, respondents often expressed mistrust of government and its functionality in precise ways. One respondent with a prominent position within the community stressed how closely citizens were observing their leaders: 'People look for leaders who [are] concerned about the welfare of the people. To trust someone, you will see what he does. How do [they] behave towards people and towards [themselves]?'<sup>25</sup> One respondent remarked on the lack of stability that the government brought: 'Government is like a wing. Tomorrow, tomorrow next, it can change.'<sup>26</sup> Criticism of political leaders was clear but also specific. A group of youth in a town centre—with regular and reliable mobile phone access, although this location was not covered by our survey—pointed out that they had not experienced their leaders to be accountable: 'A leader is not even accountable to the citizens. As a leader in parliament, you have to come to the people and account for them, not [by giving] money, but give them information...[They] also need to give honest account[s] of [their] failure[s]., Right now



there is no information on what is working and why it is not working.<sup>127</sup> One woman in an area with general coverage, which was not covered by our survey, argued for the need for transparency: 'If I [were] the president I would call all the governors, commissioners, [and] community leaders so that they [could] discuss how decisions are made.'<sup>128</sup>

In areas with general coverage, the tone seemed to be stronger when people talked about government failures and unfulfilled expectations. Respondents noted the government's passivity: 'The Government stood [by] and watched and listened'<sup>129</sup> and 'in the national government, nobody was acting. So people were wondering: is something being planned for the entire community? So we had to find a way of surviving.'<sup>130</sup> Specific examples of government inactivity or lack of accountability were given: 'Why has the road not been fixed? [We] requested several times from Yambio, but they said it's in the pipeline.'<sup>131</sup> Respondents seemed to keep close tabs on perceived or real unfulfilled promises, for example, 'last year the governor promised a tailor shelter and a tea seller restaurant. Up to now these are not yet completed.'<sup>132</sup>

When put in a situation of having to deal with the government, the tone in which respondents described these interactions tended to be more assertive and self-confident than in areas with no coverage. Clear lines were drawn between government reach and local authority: 'The very issue is we want to maintain our cultures and norms; we cannot fully do that with the government.'<sup>133</sup> There was a clear sense of stronger local political organization which would help to stand up against unpopular government decisions: 'Outside town the land is solely under the community[s] control]. If the government is to invest they have to ask the community. From the community, the chief is the key person. Also, the community participates in associations: women[s] association[s] and youth association[s].'<sup>134</sup>

However, it was notable that only in areas with general coverage did people mention the possibility of holding their leaders to

account and of initiating change in this way.<sup>135</sup> One young man stressed how the youth—after having received training from an international NGO on how to be closer to the government—'challenged the government, because the government does not want the citizens to know what they are doing.'<sup>136</sup> People at least described their attempts to bring a concern to the attention of the local political and administrative leaders in various ways—even though none of them expressed a strong sense of empowerment or a belief that the upward chain of accountability was working: 'People ask many questions to government officials.'<sup>137</sup>

However, there are accounts of an accountability chain working: 'During elections there was tension between the former [and the current] governor. The [former governor won the vote in this county] and then [the people here] complained that the new governor was not coming [to visit this area after he had won the statewide vote]. So, he came and he listened to them.'<sup>138</sup>

#### ***(Direct) Accountability in Areas with Sporadic or No Coverage***

In areas with sporadic coverage, the pattern also suggested that people had a sense of what the government ought to be doing, but that implementation of the duties was not happening. One man recounted how foreign soldiers had killed his brother. He was aware that the government ought to help him in receiving compensation from the perpetrator: 'The law also says if somebody is killed you have to pay a fine, but there is nobody from the government to pursue it.'<sup>139</sup> Another example was a realisation by a women's group that they ought to have received money from the government—by way of the former governor who is now a national minister—but even though 'she sent some money ... the money does not reach [us].'<sup>140</sup>

In these areas, respondents seemed mostly resigned to the fact that the quality of their life depended on the government's whim. They expressed that the government was using its citizens as pawns for other purposes as one

respondent explained: '[The] Government is just using people [like a] business...One reason for me is that [government exaggerates] the amount of insecurity so government can then call on [the] UN for money to eat the money [for themselves].' So the government is just making more insecurity, to get more money from the UN.<sup>141</sup> An older man said: 'If it was possible we could all go to CAR, if there was peace in CAR, and let the government see what they can do with an empty place. Because right now the government is only there because [we] the people are there.'<sup>142</sup>

In areas with no mobile coverage, people often spoke about the government's active interest in seeing them perish, and that the government was deliberately avoiding engaging with people on the local level: 'They are not interested in our corners,<sup>143</sup> and, 'Why is [the] government forgetting one part of the country? And in which country is there no road to where the citizens are [living]? What kind of government is that?'<sup>144</sup> One strong statement was: 'What [the] government is doing is denying our rights.'<sup>145</sup> The starkest expression of this sentiment of deliberate neglect was: 'The government wants to kill us.'<sup>146</sup>

Many with this attitude remarked on the benefits of being further delinked from the national government by strengthening local structures and problem-solving. One group said: 'We don't know why [the] government could not come and help, but we cannot wait for it.'<sup>147</sup> The importance of local actors' importance was stressed: 'Nobody is helping apart from [the] chief; the only government looking after us is [our] chief.'<sup>148</sup> Particularly when it came to civilian protection and the failures of the national and international armies, people argued for local structures: 'Why bring more soldiers if they don't protect us? If they bring more they can even kill us. So we can protect ourselves, our boys are there.'<sup>149</sup>

While explaining the importance of local protection militias for the community, a group argued: 'We are not against the government. We are not turning against the government. But government is only protecting itself, and we are protecting ourselves. Our

boys are very important to the community, but we are only protecting [ourselves], we are not turning against the government.'<sup>150</sup>

However, other groups felt more directly neglected by the government: 'All [the] chiefs called for a meeting and advised youth that they needed to defend themselves otherwise they were all going to die, and [the] government was not coming to help them.'<sup>151</sup> In areas with no coverage, expectations of [the] government were very low indeed—ranging from 'the government is not making the right decisions because those in power are against our people',<sup>152</sup> to 'people are always complaining that the government is neglecting us and not giving [us] any information. It is true; there is nothing here to show the presence of the government.'<sup>153</sup>

Qualitative data thus shows that the dissatisfaction with the accountability of government is high overall. Results also suggest that people in areas with general coverage or sporadic coverage are more likely to mention specific instances when they felt that government officials wronged them; in some cases respondents said they had attempted to hold government officials to account directly, though this usually did not have a direct result. People in areas with no coverage, by contrast, expressed a blanket distrust of the government, to the point of saying that the government actively meant them harm, and seem to have completely withdrawn from the official political system. Udo-Udo Jacob and Akpan (Forthcoming), observe a similar dynamic in Nigeria. Focus group participants who have been cut off from mobile phone signals for counter-insurgency reasons indicate that they were 'no longer part of Nigeria,' reflecting a similar sense of withdrawal from the national political system. They also note that it is not uncommon for people to blame the federal government and the president for the mobile phone blackout (which was, in fact, a military decision) and for a wide range of other misfortunes.

Quantitative data broadly confirms the findings from the qualitative analysis. First, we look at trust (hypothesis 3.3). A logit

regression, with trust in various leaders as the dependent variable and mobile phone coverage and control variables as an explanatory variables (**Table 4**, panel A – coefficients on control variables omitted), suggests that people in areas with mobile phone coverage are indeed more likely to express trust in a number of local leaders. These include the *payam* and *boma* administrators. We found no effect for the *payam* chief. Overall, there seems to be less mistrust of political and administrative leaders in areas with mobile phone coverage, echoing results obtained from qualitative data. This result extends to the national government; individuals in areas with mobile phone cover express a greater sense of satisfaction with the performance of the national government in Juba (column 5).

Results shown in **Table 4**, panel B also confirm that people in areas with mobile phone coverage are more likely to have attempted to hold a political or administrative leader to account directly (hypothesis 3.1). They are more likely to report that they have brought an issue or concern to the *payam* administrator and the *boma* chief in the past year. Counterintuitively, results suggest a negative relationship between mobile phone coverage and reporting to the *payam* chief. However, overall, we find evidence that people living in areas with mobile phone coverage are indeed less likely to have withdrawn from political processes altogether.

Qualitative evidence suggests that although people in areas with mobile phone coverage leave open the option to contact a local leader directly, this does not imply satisfaction with the leader's response (hypothesis 3.2). Again, this is confirmed in the quantitative data. Panel C of **Table 4** explores the level of dissatisfaction with the response of the leader expressed by individuals living in areas with different levels of mobile phone coverage, controlling for incidence of reporting an issue or concern. It suggests that people living in areas with mobile phone coverage are significantly *less* likely to express *strong* dissatisfaction with any leader's response (column 10), but significantly *more* likely to

express *moderate* dissatisfaction (column 11), compared to individuals living in areas without coverage. This holds for both sporadic and general coverage. Mobile phone coverage thus does not appear to have unidirectional impact on the overall level of dissatisfaction.

## Conclusion

We investigated whether various hypotheses about the role of information and communication technologies (specifically mobile phones) in statebuilding and peacebuilding hold true in Western Equatoria State, South Sudan. ICTs, and mobile phones in particular, could serve to inform citizens better, making them more likely to vote, and improve political accountability. Keeping in mind methodological caveats outlined in the methods section, we find evidence that living in an area with mobile phone coverage is indeed related to an increased perceived quality of information. Mobile phones thus do seem to play a role in spreading information. However, this does not necessarily translate into political participation in the form of voting. People living in areas with mobile phone coverage express greater disillusionment with the voting process and are less likely to say that they have voted or will vote in the future; their skepticism is very clear. Hence, our research suggests that mobile phones do not contribute to political accountability through the ballot box—leaving aside uncertainty about if and when next elections will be held. A degree of direct accountability exists since people living in areas with mobile phone coverage allow for the possibility to complain to local political and administrative leaders directly, and they are more likely to have done so in the past year. However, this does not necessarily mean that leaders act on these complaints; regardless of mobile phone coverage, people appear unsatisfied with the response they receive. People in areas with coverage score most political and administrative leaders higher on trustworthiness. Qualitative data, however, reveals that overall levels of trust are extremely low. A main difference between areas with and without phone coverage is that

<b>PANEL A</b>	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>	<b>(5)</b>
<b>Trust in...</b>	<i>Payam</i> <b>Administrator</b>	<i>Payam</i> Chief	<i>Boma</i> <b>Administrator</b>	<i>Boma</i> Chief	<b>Satisfaction</b> <b>Juba</b> <b>government</b>
	<b>ologit</b>	<b>ologit</b>	<b>Ologit</b>	<b>ologit</b>	<b>ologit</b>
General phone cover	2.834** (1.160)	1.814** (0.902)	1.920 (1.362)	9.449*** (0.839)	13.74*** (1.509)
Sporadic phone cover	1.814** (0.835)	0.919 (0.627)	1.225 (0.875)	5.690*** (0.555)	8.833*** (1.129)
Observations	425	428	415	430	396
Pseudo- $R^2$ (McFadden)	0.1242	0.1094	0.1187	0.1346	0.0862
<b>PANEL B</b>	<b>(6)</b>	<b>(7)</b>	<b>(8)</b>	<b>(9)</b>	
<b>In the last year, has reported issue to...</b>	<i>Payam</i> <b>Administrator</b>	<i>Payam</i> Chief	<i>Boma</i> <b>Administrator</b>	<i>Boma</i> Chief	
	<b>logit</b>	<b>logit</b>	<b>Logit</b>	<b>logit</b>	
General phone cover	12.05*** (0.974)	-18.97*** (1.142)	-0.112 (0.677)	12.03*** (0.912)	
Sporadic phone cover	5.441*** (0.906)	-27.09*** (0.696)	0.679 (0.481)	6.541*** (0.695)	
Constant	-121.10	202.92	-2.011	-78.77	
Observations	433	433	433	433	
Pseudo- $R^2$ (McFadden)	0.1824	0.1735	0.1103	0.0459	
<b>PANEL C</b>	<b>(10)</b>	<b>(11)</b>			
<b>Dissatisfaction with response of authority</b>	<b>Strong</b>	<b>Strong or moderate</b>			
	<b>logit</b>	<b>logit</b>			
General phone cover	-19.01*** (1.020)	14.20*** (2.986)			
Sporadic phone cover	-11.15*** (0.662)	4.75*** (1.670)			
Indicator reporting	1.541*** (0.378)	2.53*** (0.338)			
Constant	98.42	-62.467			
Observations	433	433			
Pseudo- $R^2$ (McFadden)	0.2125	0.2797			

Robust (clustered) standard errors in parentheses. All control variables are included; coefficients are omitted for brevity.

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

**Table 4:** Mobile phone coverage and (direct) political accountability.

people in areas with coverage express specific grievances against the national government and local political and administrative leaders. In areas without coverage there is a sense that the government actively seeks to harm people in the area.

ICTs and improved access to information can have unexpected effects in areas where democratic accountability structures are lacking. Increased access to information does not necessarily imply greater voter participation, especially when people have had negative experiences with the voting process. We cannot draw definitive conclusions about the impact of mobile phones on statebuilding and peacebuilding, but our results could suggest that mobile phones contribute positively by increasing trust (or rather, decreasing outright mistrust) in government and local political and administrative figures. However, we also see that mobile phone coverage may be related to increased demands on these local figures, demands that they seem unable to fulfill to people's satisfaction—as in the case with the county commissioner who simply hung up on the *payam* chief who had called needing help with a security threat. For the chief, the fact that he had a communication device and access to a government administrator did not at all help him with his real problem. What we see from this research is that the assumption that merely having a communication device will lead to better communication and accountability is both a practical as well as a policy problem. The two problems overlap where the practical disappointment with government leadership turns into long-term alienation, which is unlikely to contribute positively to creating peace and building a state.

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### Notes

- <sup>1</sup> *boma* E. 2013 Author 1 interview with chief. 22 May.
- <sup>2</sup> *boma* H. 2013 Author 1 interview with women's group. 23 May.
- <sup>3</sup> *boma*, B. 2013 Author 1 interview community meeting. 6 May.
- <sup>4</sup> *boma* H. 2013 Author 1 interview with women's group. 23 May.
- <sup>5</sup> *boma* E. 2013 Author 1 interview with chief. 22 May.
- <sup>6</sup> *boma* H. 2013 Author 1 discussion with Arrow Boys. 23 May.
- <sup>7</sup> *boma* H. 2013 Author 1 discussion with Arrow Boys. 23 May.
- <sup>8</sup> *boma* H. 2013 Author 1 discussion with Arrow Boys. 23 May.
- <sup>9</sup> *boma* H. 2013 Author 1 interview with elders. 23 May.
- <sup>10</sup> *boma* H. 2013 Author 1 interview with elders. 23 May.
- <sup>11</sup> *boma* C. 2013 Author 1 group discussion with young men. 20 May; *Boma* C. 2013 Author 1 community meeting. 20 May.
- <sup>12</sup> *boma* H. 2013 Author 1 interview with elders. 23 May.
- <sup>13</sup> *boma* K. 2013 Author 1 interview with leader of women's group. 14 May.
- <sup>14</sup> *boma* L. 2013 Author 1 interview with members of Jehova's witnesses. 5 May.
- <sup>15</sup> *boma* M. 2013 Author 1 interview with government inspector. 13 May.
- <sup>16</sup> *boma* K. 2013 Author 1 interview. 14 May.
- <sup>17</sup> *boma* L. 2013 Author 1 interview with Chief. 1 May.
- <sup>18</sup> *boma* E. 2013 Author 1 interview. 22 May.
- <sup>19</sup> *boma* L. 2013 Author 1 interview with Chief. 1 May.
- <sup>20</sup> *boma* M. 2013 Author 1 group discussion. 12 May.
- <sup>21</sup> *boma* C. 2013 Author 1 interview. 20 May.
- <sup>22</sup> *boma* H. 2013 Author 1 group discussion. 23 May.

- <sup>23</sup> *boma* H. 2013 Author 1 group discussion. 23 May.
- <sup>24</sup> *boma* F. 2013 Author 1 interview with woman. 11 May.
- <sup>25</sup> *boma* K. 2013 Author 1 interview with spiritual leader. 15 May.
- <sup>26</sup> *boma* M. 2013 Author 1 interview. 13 May.
- <sup>27</sup> *boma* M. 2013 Author 1 group discussion. 2 May.
- <sup>28</sup> *boma* K. 2013 Author 1 interview. 14 May.
- <sup>29</sup> *boma* M. 2013 Author 1 interview Paramount Chief. 11 May.
- <sup>30</sup> *boma* D. 2013 Author 1 interview D. 11 May.
- <sup>31</sup> *boma* L. 2013 Author 1 interview. 30 April.
- <sup>32</sup> *boma* M. 2013 Author 1 group discussion. 13 May.
- <sup>33</sup> *boma* L. 2013 Author 1 interview. 1 May.
- <sup>34</sup> *boma* M. 2013 Author 1 interview government executive. 10 May.
- <sup>35</sup> *boma* L. 2013 Author 1 interview with senior spiritual leader. 1 May.
- <sup>36</sup> *boma* K. 2013 Author 1 interview. 14 May.
- <sup>37</sup> *boma* L. 2013 Author 1 interview. 1 May.
- <sup>38</sup> *boma* M. 2013 Author 1 interview. 13 May.
- <sup>39</sup> *boma* C. 2013 Author 1 interview. 20 May.
- <sup>40</sup> *boma* C. 2013 Author 1 group discussion. 20 May.
- <sup>41</sup> *boma* C. 2013 Author 1 interview. 20 May.
- <sup>42</sup> *boma* C. 2013 Author 1 interview. 20 May.
- <sup>43</sup> *boma* H. 2013 Author 1 group discussion. 23 May.
- <sup>44</sup> *boma* H. 2013 Author 1 group discussion. 23 May.
- <sup>45</sup> *boma* H. 2013 Author 1 discussion with Arrow Boys. 23 May.
- <sup>46</sup> *boma* H. 2013 Author 1 discussion with Arrow Boys. 23 May.
- <sup>47</sup> *boma* H. 2013 Author 1 discussion with Arrow Boys. 23 May.
- <sup>48</sup> *boma* H. 2013 Author 1 discussion with Arrow Boys. 23 May.
- <sup>49</sup> *boma* H. 2013 Author 1 group discussion. 23 May.
- <sup>50</sup> *boma* H. 2013 Author 1 discussion with Arrow Boys. 23 May.

- <sup>51</sup> *boma* H. 2013 Author 1 discussion with Arrow Boys. 23 May.
- <sup>52</sup> *boma* H. 2013 Author 1 discussion with Arrow Boys. 23 May.
- <sup>53</sup> *boma* D. 2013 Author 1 interview D, 11 May.

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