

# Chapter 18

## Protecting Electoral Integrity in Emerging Democracies



James D. Long

### 1 Development Challenge

Inclusive political institutions are associated with improved service delivery (Buono de Mesquita et al., 2002), reduced corruption (Kolstad & Wiig, 2016), and positive economic growth (Acemoglu et al., 2001). Two explanations for these patterns are that democratic governance reinforces political accountability by rewarding or punishing government performance (Barro, 1973), and by articulating the policy demands of the electorate (Manin et al., 1999). Accordingly, competitive elections represent a promising benchmark to guarantee government responsiveness and communicate clear mandates. A country's elections depend on robust participation and outcomes that reflect the will of the people to promote good governance and rule of law as a road to economic development.

But elections can only serve constructive purposes when conducted transparently with fair outcomes. While the holding of multiparty elections has become common across much of the developing world over the last 30 years, many emerging democracies still lack credible electoral institutions and processes. Problems include restrictions to party competition, voter suppression, and blatant fraud.<sup>1</sup> Stories

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<sup>1</sup> From 1980 to 2010, upward of 70% of all developing country elections registered reports by independent observers of significant problems (Kelley, 2012). The inability of countries to manage elections properly has resulted in global "democratic backsliding" since 2010 (Hyde, 2020). According to Freedom House in 2020, while 115 of 190 (60%) countries qualify as "electoral democracies" (coded as having mostly free and fair elections) and elections technically occur in all but 2 sub-Saharan African countries, only 31% of African countries were rated as having electoral democracy.

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abound documenting electoral manipulation in contests ranging from Afghanistan to Venezuela. There are many reasons such cheating persists. First, many election commissions – the managerial body tasked with electoral management – frequently lack the internal capacity and appropriate technology to oversee election day operations and obtain reliable ballot counts. Election infrastructure is also vulnerable to “hacking” of various sorts. Second, politicians often exploit weak legal safeguards to corrupt elections in illicit ways, from vote buying to rigging vote tallies. For their part, citizens often face political exclusion arising from numerous institutional and socio-demographic barriers that limit healthy electoral participation. The growing weaponization of election-related content on digital media further degrades voter mobilization, and a lack of quality elections increasingly undermines citizens’ engagement (Norris, 2014). All told, while many developing countries have transitioned to democracy, problems with electoral integrity threaten democratic consolidation. The more governments reflect a corrupted vote process, the less likely its leaders are to pursue the reforms necessary for development.

This case study recounts attempts to confront threats to electoral integrity in emerging democracies. The set of actors critical to the story include electoral commissions, politicians, and citizens along with international organizations, academic researchers, and global publics. While the specific manner in which these groups work to protect or erode democracy forms a central narrative of a country’s political cycles – including an array of public and hidden actions – elections are also shaped by a set of intuitive and fairly generalizable plot points derived from the political economy and behavioral dimensions of how some of these actors organize and respond to fraud. Not all electoral actors are corrupt, but enough of them are enough of the time that the quality of democratization over the past few decades falls short of democratic ideals and the public’s aspirations in many countries. Within the governance sector, election administration is perhaps unique in requiring some of the most urgent, yet simple, fixes to existing systems. As I describe, these fixes do not require radical technological shifts as much as important shifts in theoretical orientation and reforms to programming.

My personal interest in the topic of election security arose from dissatisfaction with the status quo – of which I found myself a close observer and participant. In 2007, while collecting data on electoral integrity in Kenya for my PhD research, I uncovered fraud firsthand (Gibson & Long, 2009). Rigging claims in that election resulted in sustained post-election violence – upward of 2,000 deaths and 700,000 internally displaced people – and the collapse of a rapidly growing economy (Kanyinga & Long, 2012). Witnessing these events inspired me to study electoral corruption and work with organizations in the governance sector to combat it.

The international community has spent billions of dollars a year over the last three decades in democracy assistance to shore up elections in developing countries. Donor efforts target institutional strengthening through technical assistance to election administrative bodies to ensure accuracy in voting procedures and the deployment of non-partisan observers to oversee electoral processes and outcomes (Bjornlund, 2004). Third-party monitoring of elections should enhance election quality since independent oversight can provide important tools for improving

the performance of election bodies (Hyde, 2011). Motivated to contribute positively to these activities, I joined a US Agency for International Development (USAID)-funded mission to support Democracy International's (DI) observation of Afghanistan's 2009 elections. Our team of advisors and monitors visited polling stations on election day, tracked the results, and lent other technical support. But in a manner eerily similar to what I saw in Kenya regarding problems in the tallying and certification of votes, failures of election management and producing accurate counts led to a contested outcome. Vote totals had been improperly aggregated, likely manipulated, and the election commission lacked the proper infrastructure to protect and certify results. Not from a lack of will and despite our presence, international observers could neither guarantee a fair process nor provide the requisite support to improve the election's management. Rather, like many observation missions, we were ill-equipped to anticipate and then action assistance necessary that would have better protected the vote count process.

I quickly learned that these experiences in Kenya and Afghanistan were not unique. Despite the near-universal independent observation of elections in developing countries over the past 30 years, electoral fraud abounds, and the presence of foreign democracy assistance is actually more likely to be associated either with a null or negative impact on election quality than a positive one (Kelley, 2012). I came to realize that the existing model of observation may not always work because the methods employed by these groups have not always taken into account changes in or threats to the electoral environment, evolving methods of hacking, or the strategic response by election workers and politicians to observation. Such missions also do not consistently monitor or audit the results transmission and lack reliable measures of fraudulent activity. These missions also tend to lack comprehensive coverage of polling stations, an important constraint we faced in Afghanistan where the security required for international observers becomes cost prohibitive beyond a handful of stations.<sup>2</sup> While the commitment to improve elections through donor aid remains, these limitations pointed to the need to re-examine aspects of democracy assistance. But after returning from Afghanistan in 2009, I saw that the lessons learned and technical fixes were not yet being implemented ahead of the country's upcoming parliamentary elections slated for 2010.

To address these gaps, I teamed up with a fellow graduate school colleague, Mike Callen, who had also been working in Afghanistan and examining fraudulent vote patterns from 2009. Looking at the evidence from Kenya and Afghanistan regarding changes to vote totals and the failure of other monitoring modalities, we did not see an obvious solution in existence to enhance the credibility of the count. Any improvement would need to confront core aspects of electoral management and the vote aggregation process, including the poor performance of

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<sup>2</sup> The largest international mission in Afghanistan in 2010 spent about \$10 million USD and visited 85 stations due to security concerns (Callen & Long, 2015). While many missions do not report budgets, the European Union says it spends on average \$4 million USD per observation mission (European Union, 2006). As calculated in Callen et al. (2016) and applied to the 643 stations the EU observed in Uganda in 2011, this costs on average \$6,220 per station.

administrative bodies to conduct counts properly and outside political influence to corruptly change vote totals. No matter what solution we developed, we would be constrained by costs and security that would prevent anything like full monitoring of all activities at all polling stations. One way around this could be to leverage the evolving nature of advances in information and communications technology (ICT) in developing countries. ICT holds potential to better mobilize users – like election observers or citizens – to overcome barriers to participation in public acts and low-cost monitoring of bureaucratic performance, and to collect diffuse information regarding government service delivery. Curiously, prior election observation had often ignored these positive uses of ICT and instead focused technologies in expensive and complex ways without measurable improvements. Our aim then was to harness the reality of Afghanistan’s institutional context, understand the (often hidden) threats to election integrity, and incorporate ICT adoption of low-cost forms of monitoring to inspire new ways to overcome the programmatic and technical challenges of previous approaches.

The innovation we developed – “photo quick count” – is a low-cost, ICT-capable, independently managed platform of audited election results performed by citizen monitors that provides polling station level photographic records of tally sheets to compare alongside scanned and certified results from a country’s election commission. By obtaining original records of vote results on tallies, the audit detects procedural failures by election officials and aggregation fraud (rigging that occurs in results transmission as observed in Kenya and Afghanistan), including from officials directly changing tally results forms and computer hacking into results transmission systems. Photo quick count also has the ability to deter these administrative problems and corruption by announcing the audit to officials at polling stations. The inception and innovation for photo quick count was supported by DI and USAID’s Development Innovation Venture (DIV) grant of phased funding.

Thus far, photo quick count has been conducted by a group of in-country deputized professional citizen monitors that have been activated, managed, and trained by our research team and deployed for project purposes in Afghanistan, Uganda, and Kenya. Recently, we pivoted to broadening adoption and functionality using crowdsourced election monitoring in South Africa with “VIP:Voice,” a bespoke ICT platform that recruits dispersed users entirely through ICT channels with no pre-existing infrastructure or direct engagement by our team (other than via the platform). Available across user devices, VIP:Voice allows any citizen to access election-related content and obtains volunteers who agree to report on polling station activities and perform photo quick count.

Through rigorous evaluations, photo quick count and VIP:Voice have documented reductions in aggregation fraud and improvements to a variety of methods of citizen participation to improve electoral integrity. They further scientific knowledge and the evidence base on instruments for policy guidance on the mechanisms and cost-effective tools to bolster institutional performance and elections at scale. But many of the problems recounted here also plague the election security of many industrialized democracies, including the United States, who are increasingly incapable of managing and securing their own vote counts and lack consistent and

credible audits. The knowledge transfer often promoted by research and policy communities from developed countries to developing countries has a different directionality in this instance, with vital contributions that developing countries are providing to protect electoral integrity on a global scale.

## 2 Implementation Context

Combating election fraud must confront manifold contextual, technical, and implementation challenges. Although every country presents its own unique constraints to fair elections, our innovation grew out of both how we understood these problems comparatively and attempts to overcome them within each case.

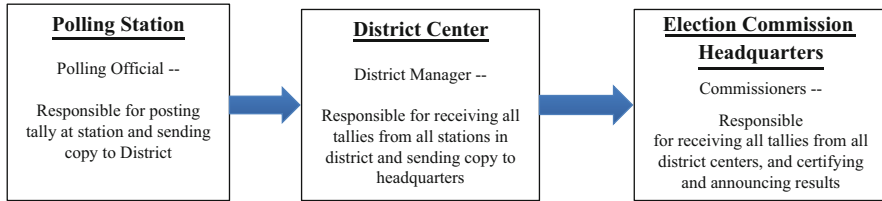
A first challenge is perhaps the most obvious: politicians lacking enough virtue to uphold clean races regardless of the outcome confront the temptation to cheat if doing so helps them win and they are unlikely to get caught or face sanction. Because developing countries are more likely to face fewer safeguards to protect rule of law compared to industrialized democracies, fraud is more likely in emerging democracies. Yet the possibility of corruption must be weighed against the activities of citizens, civil society, and donors working to fight it. Governance is therefore one of the most sensitive development sectors to work in and requires balancing a number of conflicting political interests of those running for office and voting in elections with the administrative duties of delivering a free and fair process.

A second obstacle involves the countries themselves, where levels of state capacity and the nature of political competition hold the potential to shape election quality in fundamental ways. Holding an election is never easy, and in fragile states with low bureaucratic capacity like Afghanistan, it is administratively difficult, financially burdensome, and dangerous.<sup>3</sup> Taliban insurgents frequently disrupted Afghan elections (Condra et al., 2019); even higher capacity states like Uganda and Kenya still often suffer perennial swells in violence during campaigns. These fragile and middling states contrast with countries like South Africa, which enjoy strong bureaucratic capabilities and less fraud but still have room to improve election management. The nature of political competition is also an important contextual variable; party systems and electoral rules influence how candidates gain office and subsequently patterns of likely corruption.<sup>4</sup>

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<sup>3</sup> Condra et al. (2018) document that Afghan elections cost the government about \$210 million USD per round (not including security costs), most of the funds coming from donors.

<sup>4</sup> As discussed in Callen and Long (2015), Afghanistan's 2010 parliamentary election had thousands of candidates running for hundreds of seats with a single non-transferable vote (SNTV) across 34 provinces; fraud is therefore relatively decentralized without party linkages to predict *ex ante* and large returns to fraud for numerous candidates. But in dominant party systems like Mexico under the PRI (Magaloni, 2006) or competitive party systems where parties enjoy strong "vote bank" areas like Ghana (Ferree & Long, 2016), corruption is likely to be either centralized nationally and controlled by one party, or localized to areas of strong party support.



**Fig. 18.1** Bureaucratic organization and process of aggregation of vote totals within an election commissions. (Adapted from Callen & Long, 2015)

A third set of challenges recognizes that elections are just unavoidably difficult to manage. To understand why, it is helpful to embed the political economy and behavioral dimensions of election fraud within an institutional analysis of election management to define the set of relevant actors and their roles managing elections in developing countries. This helps delineate and focus on dimensions for corruption, and from that, improvement. One helpful aspect of implementation context is that many countries in the developing world run their elections in very similar ways that follow analogous, if not the same, procedures. For demonstration purposes, I will adopt a uniform nomenclature to describe relevant electoral institutions and processes here, even though many words and concepts differ slightly depending on the case.

Election commissions are bureaucratic agencies mandated with delivering a credible election. They are responsible for registering voters, hiring and overseeing poll workers, managing voting processes, tabulating results, and certifying winners. Refined over the last three decades, developing countries often share the same or similar procedures for ensuring ballot secrecy, protecting ballot boxes, and transmitting results tallies. To run an election, election administrators are embedded within a standard bureaucratic chain of delegation. Starting from the most local unit in Fig. 18.1, at each polling station, what I term a *polling official* oversees voting and compliance with procedures opening the polling station, during the vote, and tabulating results. That official has a *district manager* in charge of running the election process at administrative units higher than the polling station (e.g., constituency or province), who oversees and monitors all of the officials and polling stations in their area. This includes receiving the election results that are sent by officials from individual polling stations to be aggregated and organized at the district level by the manager. At the national level, district managers are overseen by *election commissioners*, who run the nationwide electoral process from the agency's headquarters and oversee all managers and officials. Commissioners declare a winner after a final vote tabulation, but election workers at every stage are important to bring the process to conclusion.

An election commission is a necessary body for running an election, but its mere existence is not sufficient for protecting electoral integrity because commissions face many of the institutional pathologies of public sector governance in developing countries (Olken & Pande, 2011). Within the chain of delegation, three problems

arise that threaten the ability of the commission to secure proper administrative procedures and without undue political interference. First, commissioners and managers face difficulty in the hiring process of polling station officials. These officials are not permanent workers with long-term contracts or incentives for performance pay; rather they are temporary laborers who are hired for a very short period (the election). Officials receive only minimum training, are provided wages that typically do not offset any wages they obtain from permanent employment, and while officials must demonstrate literacy and numeracy, such requirements are hard to enforce and heterogeneous across contexts.<sup>5</sup> Performance pay could theoretically help improve the quality of the labor pool but is prohibitively costly, does not address underlying problems of training, and would need to outweigh the amount an official could receive in a bribe.

Second, managers and commissioners lack reliable procedures and technology to oversee their agents. With a national exercise like an election occurring in a truncated period, managers are often not able to properly monitor the conduct of officials at individual polling stations or keep close watch on the vote tally and aggregation process.<sup>6</sup> Commissioners are unlikely to be in a position to action every reported problem from managers across districts on a single day. While standardized chain-of-custody practices of protecting the transmission of tallies in the results process exist on paper, they are not properly enforced in many countries, particularly at levels of the aggregation process beyond the polling station (e.g., district and national levels in Fig. 18.1). This occurs for a number of reasons. Officials frequently find it difficult to adjudicate discrepancies and may not be incentivized to report irregularities. Unfortunately, this structure provides opportunities to cheat, including administrators artificially and illegally changing vote totals for candidates directly on tally forms at district centers.<sup>7</sup> As a result, managers may overturn results from polling stations, change them, or fail to enact investigations into differences. The national intake center at commission headquarters scans a carbon copy of the tallies they receive, which should be the same as what is posted at the polling station to publicize and certify results on their website. But these totals often fail to reflect original totals, and candidates often seek to directly destroy evidence of the polling center count (including its tally) to then manufacture an entirely new tally that they insert into the chain of custody (Fig. 18.1).

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<sup>5</sup> South Africa requires at least 250,000 individual polling officials and managers to run the election and tally votes over a week's period every election. Kenya hires about 45,000 individual officials and the equivalent of 230 district managers. In Afghanistan, where men and women voters cast ballots in separate polling stations, the commission often finds it difficult to recruit female presiding officers who meet numeracy and literacy requirements.

<sup>6</sup> While South Africa has one of the best performing commissions in Africa, our observers still noted tallies missing in nearly 60% of polling stations in clear violation of administrative procedure.

<sup>7</sup> For example, illegal changes to tally sheets in Kenya's 2007 election are documented in a comprehensive investigation by Kanyinga et al. (2010).

Third, election commissions – which should remain non-partisan and independent of political influence – are weak and vulnerable to outside influence from collusion by candidates with officials to rig in their favor, either on the transmission of paper tallies or computer hacking into results systems from outside computer networks.<sup>8</sup> Collusion can involve direct bribe paying at the level of official, manager, or commissioner; but the returns to bribing a manager or commissioner are much higher given their control over the aggregation process.

A final set of challenges potentially involves actors who operate outside of the election management delegation chain but nonetheless have and could work to support electoral integrity. Civil society and the international community desire fair results and lend diplomatic, financial, and technical assistance to elections. But curiously, much of the technology advocated by these organizations has actually made it harder to secure results transmission by overburdening officials with unnecessary tasks that slow them down and are prone to error, while at the same time failing to protect or integrating original ballots or tallies into stream-lined, easy-to-audit, and difficult-to-hack ways.<sup>9</sup> Moreover, to stop corruption at scale, an election needs polling station monitoring beyond areas typically visited by these organizations and in ways that actually catch cheating. Methods to recruit citizen volunteers over ICT to report on polling stations and vote returns is one avenue to increase coverage, but citizens face many institutional and personal constraints to free and fair participation in elections. Even if people have technology readily available, it does not mean that they are motivated or equipped to monitor actions by bureaucratic actors embedded within election administrative bodies.

### 3 Innovate, Iterate, Evaluate, and Adapt

To combat threats to electoral integrity, our theory of change had to recognize the industrial organization of fraud in emerging democracies' elections as arising from institutional and behavioral elements of the actors described above. Specifically, we innovated a new way to detect and deter cheating with “photo quick count,” which overcomes many of the bureaucratic pathologies of election commission by

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<sup>8</sup> In Kenya's 2017 presidential election, forensic evidence revealed tampering of tally forms and computer hacking into the results transmission system.

<sup>9</sup> Afghanistan's biometric voter identification system (supported by \$20 million USD from the international community) failed on election day in 2018 and did not protect the integrity of results transmission. Kenya's Integrated Electoral Management System (KIEMS), which reportedly costs the government upward of \$1 billion USD (\$24 million USD donated by the United States), was meant to upgrade and improve results sent over ICT for the 2017 election. The inability of thousands of officials to properly transmit results due to user, network, and administrative error over the system was apparent in real time as the commission was attempting to aggregate and certify results electronically. They would eventually have to revert to original hard-copy tallies. While the Supreme Court eventually nullified this election, the opposition boycotted the revote in part given a lack of any upgrades to KIEMS and the results transmission system.



protecting against illicit actions that occur in the transmission of results along the chain of bureaucratic delegation. Photo quick count also seeks to improve the role that outside actors (including civil society, donors, and citizens) can play supporting elections. The cycle of innovation, iteration, evaluation, and adaption followed from pilot phasing in Afghanistan, to nationwide scaling in Uganda (2011) and Kenya (2013), pivoting to ICT-recruited and widespread citizen adoption of photo quick count with “VIP:Voice” in South Africa (2014).

### ***3.1 Innovation***

Photo quick count occurs in two phases, described here temporally. Phase 1 consists of a randomized announcement of an audit of polling station tallies. The announcement occurs by the delivery of a letter from one of our deputized election monitors given to the polling station official on election day during voting.<sup>10</sup> The letter states that the official’s station has been randomly selected to have its results audited, which will occur the next day when monitors return to the station to photograph the tally that officials are required by law to post publicly at the conclusion of the station’s vote count (typically the evening of the election). In effect, the letter “reminds” officials that they are responsible for publicly posting the tally and indicates that our monitor will photograph the tally to then compare to the certified result published at the conclusion of the election. The letter explains that this procedure helps to verify compliance with procedures at the polling station (e.g., the official’s posting of the tally) and against the certified result (e.g., by the commission), recording any discrepancies and differences. The letter asks officials to sign acknowledging having received it. The monitor takes the signed copy and leaves a copy with the official. Phase 2 occurs the next day when, as indicated in the letter, monitors return to the same polling station to record whether the tallies have been posted and photograph the ones that are present. This is the technological component of the intervention, photo quick count, which records whether procedures were followed in that tallies were posted, undamaged, and not removed after posting and, if properly posted, whether a polling center’s tally matches the final and certified count.

The announcement of monitoring via the letter delivery and verification with photo quick count functions similar to other audits with measurement tools to detect irregularities, and in this context, to encourage compliance with electoral procedures as proscribed by countries’ laws to guard against aggregation cheating (conducted by an outside actor to the delegation chain). This is because of how the tally itself functions in the results transmission process (Fig. 18.1). Importantly, all of the

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<sup>10</sup> These monitors are in-country citizens recruited and managed by our team. They received the equivalent of 2 days of paid work for Phases 1 and 2 and attended one training session. They were not previously part of an election monitoring organization.



**Fig. 18.2** Afghan voters examining a tally form posted at a polling station. (Berman et al., 2019)

countries in our studies require posting of tallies by officials – failure to do so is an abrogation of responsibilities, and not posting is a bureaucratic failure of managers to not properly oversee officials. If the tally is posted, photographed, and the same as the scanned and certified tally published by the commission (made available on their website for public viewing), the audit verifies that no changes were made in the aggregation process by managers, commissioners, or other political actors. As designed, these original tallies are supposed to provide checks on certified results since the latter are carbon copies of the former that were originally filled at each station with identical copies sent along the delegation chain to managers at the district level and then commissioners at the national level (Fig. 18.1). Electoral laws mandate that the results of the original tally be posted in a public and conspicuous place since they are the only official means by which an individual can see how their precinct votes (and citizens are legally allowed to view and photograph them (Fig. 18.2)). It is typical that many citizens and political agents from local communities examine tallies since they plausibly send a signal to those communities about the fairness of the election at that station. However, failure to post tallies, stealing or damaging of tallies, or inconsistencies in results between the original tallies and copies scanned by the commission reflect at best administrative failures and at worse the possible intention to manipulate the vote count process.<sup>11</sup>

<sup>11</sup> Berman et al. (2019) report that thousands of complaints received by the Afghan Electoral Complaints Commission demonstrate that tallies were often stolen by political agents in order to take tallies to a secret location or another part of the aggregation chain (e.g., provincial election centers) to falsify results and reinsert tallies back into the count.

### Counterfactuals

From our theory of change and photo quick count's tally fraud detection, we hypothesized that the announcement of monitoring of stations receiving the letter in Phase 1 would be more likely to improve their procedures and result in fewer tally discrepancies, compared to a station that did not receive a letter. To evaluate this possibility against a counterfactual, we selected a sample of audit-eligible stations. In Phase 1, we randomized the delivery of the letter in treatment stations with control stations receiving no letter. In Phase 2, for both treatment and control stations, our researchers followed the same protocols to conduct photo quick counts. The evaluation compares these results to estimate the effect of the announcement via letter delivery.

To understand how the two phases work concretely, I describe the first deployment in Afghanistan's 2010 parliamentary elections (Callen & Long, 2015). We created an experimental sample of 471 polling centers (about 7.8% of the total) that we determined were audit-eligible and could be visited by our team.<sup>12</sup> Of the 471 centers, we randomly selected 238 to receive the letter on election day (Phase 1) delivered by a team of Afghan monitors that we hired and trained; the remaining stations received no letter. The next day (Phase 2), our monitors returned to the stations that had received a letter on election day and the stations in the sample without a letter to perform photo quick count the morning after the election at which point officials should have posted tallies. They photographed tallies with digital cameras purchased by us for the project, which were not capable to transmit data in real time but could save images on removable memory chips. (While our initial hope was to crowd-seed smartphone devices to our monitors, we lacked the budget, time, and programming capability in the project period.) If tallies were not posted or there was evidence they had been torn down, monitors investigated as to why and by whom (without interacting with any polling officials) and recorded that information.

Photo quick count documents numerous suspicious activities regarding tally postings by our monitors. Figure 18.3 shows a comparison taken by our monitors at a polling station (left-hand panel) and the scan of that polling station's tally received and published by the election commission in Kabul (right-hand panel) scraped from their website. These should be carbon copies and thus otherwise identical, but they differ in obvious ways. Someone has converted an original Dari script from the polling station into Arabic numerals scanned at the commission, the polling station official's name has changed, and the station tally records vote totals for several candidates that are entirely deleted from the commissions' tally. To see how these differences operated over the whole sample, Table 18.1 records levels and types of differences between tallies. Importantly, tallies were damaged or removed at 62 of

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<sup>12</sup> The sample was limited to precincts within provincial capital cities due to safety, administrative, and cost limitations.



**Fig. 18.3** Tally forms from the same polling station in Afghanistan (Callen & Long, 2015); left-hand panel shows photograph posted at station and right-hand panel shows scan at the election commission

**Table 18.1** Patterns of discrepancies in tally aggregation process between photographed tallies at polling stations via photo quick count (sample of 346 stations) and commission tallies in Afghanistan

Pattern of discrepancies	Number of polling stations	Share of sample
None	74	21.4%
Adding votes (only)	70	20.2%
Subtracting votes (only)	15	4.3%
Adding and subtracting (equally)	15	4.3%
Adding more than subtracting	127	36.7%
Subtracting more than adding	45	13%

Adapted from Callen and Long (2015)

the sampled polling stations (13%), preventing any direct comparisons. But for the tallies observed in the remaining 346 stations, Table 18.1 shows that while there are no discrepancies recorded in 21%, the remaining stations had differences of addition, subtraction, or both.

Table 18.1 indicates that one limitation we confronted with photo quick count is that many times the tallies were not posted or torn down at polling stations. This generated a lack of consistent measurement across the entire sample regarding candidate’s originally posted vote totals to compare against their certified vote totals.<sup>13</sup> Our intervention and evaluation in Afghanistan and subsequent countries

<sup>13</sup> We address treatment-related attrition for experimental estimates in Callen and Long (2015) and Callen et al. (2016).

therefore make use of other administrative data that further reveal measurement of likely administrative violations and fraud. Because commissions still publicize both scanned copies of tallies at the national center and separately certified data on polling station level results for each candidate on their website (even if tallies are not posted at stations), we obtain copies of commissions' scanned tallies and published results. We then employ election forensics, which uses statistical analyses of observed vote distributions to detect dubious or systematic irregularities indicative of fraud that deviate from theoretical distributions that accord with a fair vote (Mebane, 2008; Myagkov et al., 2009). Because we believed the audit announcement might differentially impact candidates based on their linkages to election administrators and therefore their ability to collude to change vote totals, we also used qualitative data on candidates' backgrounds that identifies likely patterns of political linkages between politicians and election administrators.<sup>14</sup> The combination of these data and tests with photo quick count helps measure the full impact of the intervention.

In a first set of results from Afghanistan, comparing the treatment sample relative to the control, the letter delivery positively improved measures directly observed by photo quick count and other administrative data sources. The letter delivery decreased the theft of tallies by 60 percent (from 18.9% to 8.1%) and reduced discrepancies in vote totals between photographed tallies and those certified by the electoral commission.<sup>15</sup> The letter delivery had the largest reduction on votes for candidates who gained the most votes at individual polling stations (from about 21–15 ballots, or a 25% drop).

### 3.2 *Iterative Implementation*

Aspects of the operational, political, and technical environment of Afghanistan influenced iterative implementation of photo quick count in Uganda and Kenya. First, we wanted to deploy photo quick count but to do so at scale in a nationwide and nationally representative sample of polling stations, which we had lacked in Afghanistan. Laterally, this scaling had to be cost-effective, so we considered ways to leverage photo capture with real-time data transmission over ICT using relatively cheap smartphones. We also wanted to test the effectiveness of the intervention in

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<sup>14</sup> For Afghanistan, the main parliamentary candidates' known connections with government officials were recorded from ethnographic profiles produced by DI since there are no party affiliations; in Uganda and Kenya, we relied on more straightforward relevant party, ethnic, and regional linkages.

<sup>15</sup> Given sample attrition per Table 18.1, we use a bounding exercise to estimate that this effect was between about 9 and 17 fewer votes changed during aggregation for candidates with known connections to the equivalent of the district manager.

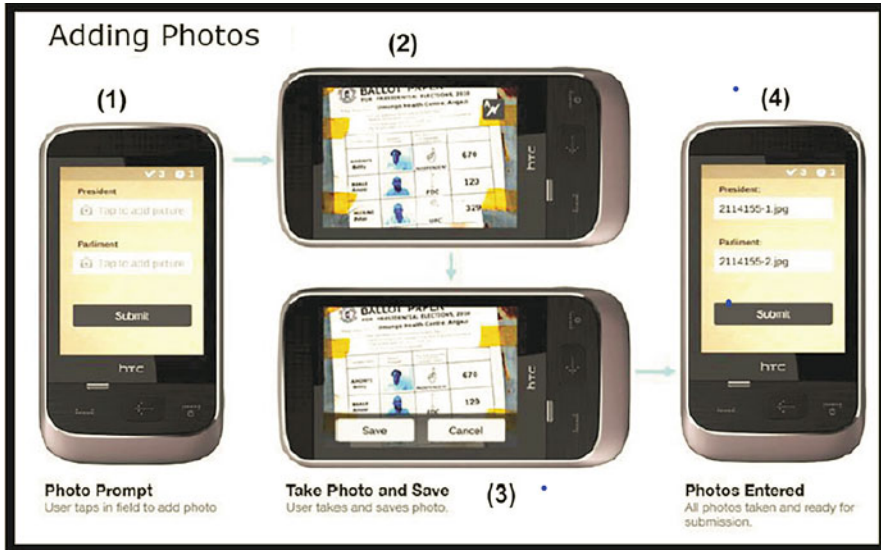


Fig. 18.4 Photo quick count smartphone application on Android for Uganda. (From Callen et al., 2016)

different institutional environments with variation in political dynamics that likely affect how political agents might influence bureaucratic functioning of commissions. While Afghanistan's commission was decentralized and the parliamentary elections featured no formal political parties, the institutional and political dynamics in Uganda and Kenya were different (and more tractable to measure).

For Uganda's 2011 election, we expanded polling station coverage to 1,002 in a nationwide sample (representative by region; see Callen et al., 2016). While this sample was more comprehensive of Uganda's electoral and institutional landscape than what we achieved in Afghanistan, it was also harder to access and manage, particularly in remote areas. We tried to offset this by having our monitors conduct photo quick count with an Android-enabled smartphone app developed in partnership with Qualcomm that cost less than half the price of the digital cameras in Afghanistan (Figure 18.4 displays the app interface). We had to crowdseed phones since many of our team did not yet have personal devices capable of photo quick count. The political dynamics that affect institutional performance in Uganda are different than Afghanistan. Rather than multiple sites of contact and influence by dispersed candidates with no formal political linkages, the Ugandan election commission is staffed from a single dominant political force, the National Resistance Movement (NRM) and incumbent President Yoweri Museveni, who gained office after winning a civil war in 1986 and has won multiparty elections since 2006. Uganda therefore has a high degree of centralization of political influence in the commission (at all levels) which was easier to predict *ex ante* but

could also differentially influence the effects of monitoring. With these dynamics in mind, we worried that the simple announcement of monitoring would potentially not operate as well in Uganda, so we developed a second version of the letter that announced monitoring and included a message that reminded officials of the legally proscribed penalties for violations of the country's electoral law (Fig. 18.5).

The third deployment in Kenya in 2013 built on the features of Uganda, with a truly nationally representative sample of 1,200 polling stations, an improved open-sourced photo quick count app, and novel administrative data sources to look at measurement strategies built into political context as detected by photo quick count, including conducting a parallel exit poll of voters. Patterns of corruption in Kenya are less centralized overall than Uganda given the lack of a dominant party. Instead, two large and polarized political forces have dominated recent elections and are backed in part by ethnic and regional coalitions that exert control in their "vote bank" areas (Long, 2020), allowing localized and regional avenues of collusion with managers; one of these coalitions reflecting the incumbent government is also strong nationally with influence in the commission.

### 3.3 *Evaluation*

Similar to Afghanistan, we evaluated the randomized announcement of the tally audit of the vote results via photo quick count. In Uganda, where we observe a lack of posted tallies in about 78% of the entire sample, letter delivery decreased the practice of not publicly posting tallies between about 6 and 11% points (depending on specification and letter version) and also reduced discrepancies in vote totals between photographed tallies and certified results for Museveni's votes per station from 8 to 16% (or 26–49 votes from an average of 307 per station). While Uganda introduced a second version of the letter reminding of penalties, we found no additional consistent effect of this letter compared to the announcement of auditing itself. We also observed that the letter reduced the propensity for adjacent digits (a forensic measure of fraud) by between 6 and 10% points in Museveni's votes. Although preliminary, early analysis from Kenya shows similar effects of the announcement increasing the propensity of posted tallies and decreasing the likelihood of suspicious vote totals and differences between tallies and commission results.

In a second set of results, we document that the audit intervention seems to affect political actors differently given how political dynamics map on to institutions and likely rigging strategies. In general, the intervention appears to have the largest impact on candidates most likely to rig, followed in different ways by evidence of strategic re-adjustment (analogous to negative or positive spillovers). In Afghanistan, the treatment effects were largest for candidates with known linkages to election administrators (specifically, the equivalent of the district manager), but we also found evidence of a chilling effect from letter delivery. Using geolocations of polling stations in our sampled areas, polling stations that had a neighboring

Urgent

February 18<sup>th</sup>, 2011

**ATTENTION: The Presiding Officer, ONIGO CENTRE Polling Station**

**Re: Election Monitoring at ONIGO CENTRE Polling Station**

Greetings! I am working with the University of California, an accredited election observation organization. We are providing this letter to tell you about some important information about your polling station.

As part of our effort to help Uganda have free and fair elections, we would like to take this opportunity to remind you of an important part of Uganda’s electoral law. As you know, the Presidential Election Act of 2010 stipulates a punishment of up to a 2.4 million UGS fine and/or imprisonment of up to five years for any election officer who knowingly gives inaccurate information about the vote returns.

As another part of the observation effort, I will return to this polling station tomorrow in order to take pictures of the “Declaration of Results” forms that you are required by law to post publicly at this polling station. We will compare the results from the photos with the certified final count published by the EC in Kampala. AFTER the official EC certification, we will report these results on the internet (at [www.uganda2011.org](http://www.uganda2011.org)) and to newspapers. By doing this, the people of Uganda will be able to see if any changes have been made to the vote at ONIGO CENTRE Polling Station after the recording and posting of the “Declaration of Results” form. All Ugandans will be able to tell whether there have been any changes to the vote total, and they will know which candidate any change benefits. The following example shows how we will report this.

Please note that we are only doing this in a small number of randomly selected polling stations, yours included, but not every polling station. As an accredited observer, we are legally authorized to complete this activity.

In recognition that you have read and understood this letter, please sign here:

\_\_\_\_\_

Thank you kindly for your help and cooperation!

The following is an example of how we will report results:

Candidate:	Polling station: ONIGO CENTRE		
	Certified Vote from the EC in Kampala	Total Votes from Photographs at Polling Station	DIFFERENCE
Candidate A	100	600	+500
Candidate B	600	100	-500
Candidate C	14	14	0
Candidate D	0	0	0

*Figure A1*

Treatment Letter Example 1. An example of the treatment letter including both Monitoring and Punishment messages.

Fig. 18.5 Election day letter announcing photo quick count in Uganda. (From Callen et al., 2016)



station within 1 km treated with a letter also saw an additional loss of about seven votes for the most politically connected candidates. In Uganda, letter delivery had an impact on the polling station level results for Museveni, reducing his votes by about three percentage points. However, we see evidence that in our sample, the central election commission appears to have slightly added votes back in his favor in monitored stations. In Kenya, rigging appears to occur at the behest of both incumbent and opposition coalitions in their local and regional vote banks, but the more powerful coalition closely connected with commissioners at the national level had additional avenues for cheating and re-adjustment.

### **3.4 Adaption**

Photo quick count produced scientific evidence on the use of randomized audits to bolster institutional performance and improve electoral integrity by an independent team of deputized citizen monitors that we trained and deployed. At the same time, scaling was still linearly expensive and limited by the availability of ICT that required crowd-seeding devices. Beyond organizational adoption, we had yet to investigate the opportunities and constraints to widespread citizens' participation and their capacity for ICT-enabled monitoring. If we wanted adaption at scale, we needed to pivot and re-orient our programmatic thinking and technological ambitions.

#### **Pivot**

Pivoting to citizen-based crowdsourced monitoring required thinking through some core components of photo quick count. Broad coverage of polling station observations by voters obviates the need for a team of researchers announcing monitoring via a letter, but many factors shape voters' political participation and technology use in positive and negative ways. Many crowdsourced platforms have encountered problems of uptake and usage in development applications; barriers to action and ICT usage must therefore inform the design and functionality of monitoring platforms.

To do so, I worked with colleagues to build a new multi-channel ICT and digital media system for an entirely citizen-based election monitoring platform financed through USAID Phase 2 funding. We designed the system, branded "VIP:Voice," and launched it in South Africa before its 2014 election in partnership with developers at the Praekelt Foundation (Ferree et al., 2020). VIP:Voice allowed citizens who registered with the system to engage with the electoral process by reporting their opinions on politics, campaign activities in their area, and other election-related matters in the lead up to polling day, including user reports on

their election day experiences and monitoring of tallies. The platform was available on a variety of ICT channels accessible by users of basic phones, feature and smartphones, and web users. VIP:Voice differed from other interventions that leverage predefined organizations or lists of users obtained from registration drives, organizational memberships, or household surveys. Instead, it advertised on social media channels and “please call me” text messages (Fig. 18.6).<sup>16</sup> This design and functionality therefore did not limit usage to any segment of society, and multi-channel development eliminates the need to seed devices (they are able to rely on the devices participants already possess). Through our recruitment over SMS and social media, VIP:Voice was able to reach 50 million South African citizens, engaged with 250,000, and registered more than 90,000. Half of registered users came in through SMS “please call me” pushes on standard phone channels and half through social media channels (particularly “Mxit,” which was South Africa’s most popular social media channel at the time). From this, we also registered citizen volunteers in 37% of the countries’ electoral wards from a set of identified highly engaged users, hundreds of whom provided reports of polling station activities and hundreds of photographed tallies.

### **Gender**

Digital access is not equal across demographic groups in developing countries. In South Africa, older, female, rural, and Black citizens are all likely to lack the web-enabled smartphones that other groups employ, but they are still likely to own basic mobile phones. Because a goal of VIP:Voice was to obtain a nationwide yield of users that included people from all backgrounds, we had to explicitly consider how gender dynamics vary across ICT channels.

VIP:Voice featured mechanisms to evaluate the efficacy of different types of engagement across the different channels and a series of randomized experimental interventions on incentives and cost in the standard phone channel. Channels that were easier to use (with social media apps) had higher rates of engagement compared to text messages, but these user-friendly channels were more likely to see more engagement attrition over time. Many users registered with VIP:Voice with no external incentive offered, but small offers of incentives (free airtime or lotteries advertised within “please call me” alerts) improved levels of engagement. In a proof-of-concept experiment, from a list of about 42,000 highly engaged users, 17% volunteered to observe elections (which was further improved by incentivization). Actual photo quick count monitoring documents numerous problems of tallies and differences in the commissions result, but these differences did not appear

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<sup>16</sup> Please call me messages are free-to-user alerts that people can send to a contact requesting a (paid) call back – they are popular when individuals lack airtime credit to make direct calls and are paid by advertising space embedded in the message.



Fig. 18.6 Advertising for VIP:Voice platform in South Africa. (From Ferree et al., 2020)

to systematically benefit any particular party and instead may have resulted from administrative failures.<sup>17</sup> Although the salience of one important design consideration was not apparent at the time, VIP:Voice had the added benefit of providing citizens with real news about the campaign and election results under the control of researchers to guard against misinformation.

### **Responsible Research**

Allowing citizens to serve the function of election monitor does nothing more than allowing them to perform the same democracy-enhancing function as voting by providing reports on polling stations. But does that guarantee that all citizens are safe to monitor? This is a question that researchers must answer depending on context and that individual users must answer for themselves. We chose one of the safest election environments, South Africa, to build VIP:Voice but any crowdsourced platform must rely on trusting its users to know if and when it is too dangerous to report on government activity. And boosting participation, even if sometimes risky, should be weighed against the realities of corruption and inadequate service delivery that citizens in developing countries face and must collectively organized to overcome.

VIP:Voice shows that citizens can be mobilized to take an active role in protecting institutions in the public realm, even where they do not receive immediate private benefits. But engaging and registering them over a digital platform to engage in real-world activities is also beset with many recruitment, technical, and programmatic challenges (Erlich et al., 2018).

## **4 Results/Lessons Learned**

Photo quick count provides a competitive advantage to alternatives, such as expensive international observation missions, given its effectiveness at detection and deterrence of aggregation fraud and potential for citizen adoption. It also works in most countries at less than 1% of the per polling station cost of international missions. The lessons learned have provided important insights informing ongoing work to translate previous project phases into improving the technical aspects of VIP:Voice. We aim to further address participation barriers, recruitment, and engagement at the same time as maintaining and growing the capacity for a professionally managed photo quick count of tallies with enough coverage to provide the minimum risk-limiting coverage.

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<sup>17</sup> We also conducted a parallel study on locally enabled ICT professional monitors using the traditional photo quick count.

Results tie to numerous literatures and generalize to other contexts. They contribute to studies on the political economy of public sector corruption, evaluations of democracy and governance programs in emerging democracies, studies of election fraud, and connection to citizen-based ICT platforms in other development sectors.<sup>18</sup> While election commissions form only one critical institution within the governance sector, there are common institutional challenges that apply broadly across bureaucratic functioning and rule of law related to oversight and monitoring of frontline officials and managers, how political linkages and connections outside of bureaucracies often undermine the performance of those bureaucracies, and whether audits work to improve agency capacity and citizen monitoring of government performance. Results offer guidance to organizations, activists, and developers regarding the usability of platforms like VIP:Voice for elections in other contexts where problems of participation, data quality and reporting, and electoral integrity can be improved with ICT.

### **Capacity**

An independently managed audit via photo quick count can help election commissions improve their capacity and output where those commissions lack strength. For example, if a commission had real-time exposure to the information coming from audits, it could respond immediately or preserve records to include in adjudication of disputes later. This possibility is likelier in cases where commissioners continue to be blamed for disputed results or where the commission is high performing already but wishes to use our tools to manage the process better.

These positive aspects should be considered alongside numerous lessons learned for policy, some of which reveal a new set of challenges and fruitful avenues for research, technical development, and programming. First, adaption of photo quick count by election commissions, civil society organizations, and donors can help improve electoral integrity; but photo quick count only provides a check on integrity when it itself is non-partisan and independent, or done in conjunction with credible partners. If used in partnership with or by commissions directly, it also requires institutional actors that are fair and forthright. Even though many commissions lack capacity or are subject to influence, the growing precedent to prosecute commissioners and managers (as in Afghanistan) or nullify elections from poor management (as in Kenya in 2017 and Malawi in 2020) could change the thinking on the need for audit, the modalities required to conduct one, and

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<sup>18</sup> Because many features of VIP:Voice were agnostic as to the particular use of those features, we provide guidance on scaling to other sectors in international development where citizens' interaction with government agencies could be improved with monitoring and data capture to receive services, like health, education, agriculture, and financial inclusion.

how to preserve evidence to its effect. Given the alarming rate at which electronic systems are being hacked, photograph- and paper-based audit methods are growing increasingly important to provide original copies of results.

International organizations and civil society groups are also plausibly well placed to serve as third-party “monitors-of-monitors” to facilitate the use of these tools given the other important advocacy work they are already doing to support democracy programming and technical assistance to commissions. In our experience, beyond DI, it has been hard to find dependable international and civil society organizations to work with, which has revealed a number of second-order challenges that involve diplomatic and political considerations for donors and non-political interference for civil society. The fidelity of the design of photo quick count and VIP:Voice would need to ensure that the technology itself is deployed robustly and cannot itself be hacked, misused, or suppressed. Our fruitful partnership with USAID provides hope that these organizations could still play an important role funding or supporting independent applications of VIP:Voice as a component to democracy assistance.

## 5 Summary

Our research contributes important evidence regarding Afghanistan, Uganda, Kenya, and South Africa’s electoral processes, the political economy of governance in election commissions in developing countries, and the viability of using photo quick count and VIP:Voice to improve electoral integrity. Although institutional pathologies of election administration persist, audits can work to improve accountability and guard against threats to results transmission. VIP:Voice provides important benefits to citizens both directly by engaging them in the election process and monitoring of their elections, and indirectly by building confidence in the credibility of the process. Because the posting and comparison of results via tallies has important resonance for certifying the election, citizen monitoring plausibly could occur in a large enough sample to provide something like a minimum threshold, particularly alongside an independent manual audit. But recruitment problems and rates of attrition from registration to monitoring with citizen platforms also suggest that if a large number of users are desired, it takes more development time and continued pushes across ICT channels. These technical challenges must be considered in the design phase, and the time is ripe to action these issues. Citizens have now spontaneously begun to employ version of photo quick count in recent elections. In 2017, thousands of dispersed and unorganized Kenyans photographed tallies and posted results to social media with a series of dedicated hashtags, where comparisons often did not comport with the election commission’s certified results. The Supreme Court then conducted its own audit of original paper tallies and a review of the electronic results transmission, a process revealing so many discrepancies that they nullified the election and declared a revote. The importance

of independent tally audits and citizen-based monitoring is only growing more salient as the integrity of elections around the world faces new and evolving threats.

### Discussion Questions

1. Under what conditions should government officials and bureaucratic agents be involved in performance audits?
2. What are the most productive ways to galvanize donors, civil society, and citizens to adopt new technologies to address needs in the governance sector?
3. How best might ICT improve citizens' political participation and ability to monitor government performance, at the same time as protecting respondent privacy and data security?

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