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commentary by Peter Walker

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From Fear to Hope: Upholding the Rule of Law via Public Defenders

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Organization of the Journal

Each issue of *Innovations* consists of five sections:

1. **Invited essay.** An authoritative figure addresses an issue relating to innovation, emphasizing interactions between technology and governance in a global context.
 2. **Cases authored by innovators.** Case narratives of innovations are authored either by, or in collaboration with, the innovators themselves. Each includes discussion of motivations, challenges, strategies, outcomes, and unintended consequences. Following each case narrative, we present commentary by an academic discussant. The discussant highlights the aspects of the innovation that are analytically most interesting, have the most significant implications for policy, and/or best illustrate reciprocal relationships between technology and governance.
 3. **Analysis.** Accessible, policy-relevant research articles emphasize links between practice and policy—alternately, micro and macro scales of analysis. The development of meaningful indicators of the impact of innovations is an area of editorial emphasis.
 4. **Perspectives on policy.** Analyses of innovations by large scale public actors—national governments and transnational organizations—address both success and failure of policy, informed by both empirical evidence and the experience of policy innovators. The development of improved modes of governance to facilitate and support innovations is an area of editorial focus.
 5. **Letters.** Readers comment on essays and papers published in previous issues.
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Ian Schuler

SMS As a Tool in Election Observation

Innovations Case Narrative:
National Democratic Institute

By 7:30 p.m. on August 12, 2007, seven cell phones chirped above the din of the generator as the first wave of observer reports poured into the small, stuffy headquarters of National Election Watch (NEW), a nonpartisan election-monitoring organization in Freetown, Sierra Leone.¹ Outside, long voting lines had dissipated, and Sierra Leoneans were gathered around their radios, anxious to learn who had won the hotly contested presidential election and whether it was conducted in a fair and proper manner. The campaign period had been marred by violence between ruling and opposition party supporters that broke largely along ethnic lines. This was the first election since the end of the country's brutal 10-year civil war to be run by Sierra Leone's National Election Commission (NEC) rather than the United Nations (UN), and there was widespread concern that heavy seasonal rains would present insurmountable logistical difficulties. A relatively peaceful election day inspired guarded optimism, but it was tempered by concern over the violence that might result if rival political groups refused to accept the results.

In its efforts to safeguard Sierra Leone's elections, NEW, like election-monitoring organizations in many other countries, deployed thousands of trained accredited local volunteer observers to polling stations around the country. Their mere presence helped to protect the rights of voters and promote a fair and peaceful election environment. Equally important, they collected valuable information about what happened at each polling station: Were all eligible voters permitted to cast ballots? Did poll workers follow appropriate procedures? Did anyone attempt to disrupt the process? What were the results of the ballot count and did these results reflect the will of voters? This information would allow the leadership of NEW to provide an objective and independent assessment of the conduct of the elections and the credibility of the result.

As Sierra Leoneans awaited radio updates, NEW volunteers raced to transmit observers' information to the organization's headquarters in Freetown for analysis. Boys on motorbikes weaved along washed-out roads, carrying the checklists that

Ian Schuler is Senior Program Manager for Information and Communications Technology (ICT) Programs at the National Democratic Institute (NDI).

observers used to record what they saw. Speedboats raced to collect reports from pickup points on Bonthe Island. In the remote northeastern provinces, information from checklists passed to Freetown via short-wave radio transmitters located in scattered health clinics. All these efforts had the same goal—to move this valuable information to the nearest place where it could be sent via mobile phone to NEW's national headquarters.

NEW's efforts were aided by an innovative text-message reporting method. Observers used a series of carefully constructed codes to send short message system (SMS) messages to one of seven phones connected to a computer by USB cables at NEW headquarters.² NEW observers could transmit complex information about the election, from minor procedural infractions to serious flaws. The computer then interpreted the codes and stored the information in a database, which included reports that facilitated rapid analysis of the data.

Messages continued to stream in through the night as a small group of NEW leaders carefully analyzed trends. The next afternoon, just over 18 hours after the polls closed, NEW announced that, despite minor discrepancies in certain districts, the elections had been well run by the election commission and voters had turned out in large numbers.³

NEW's statement reinforced the belief that Sierra Leoneans could have confidence in the electoral process. Several days later, the election commission announced that the opposition party had won the presidency and a majority in the parliament, the first political transition since the end of Sierra Leone's devastating civil war. The official results closely reflected the data that NEW had collated several days earlier. Given the tense political environment and concerns over potential violence, NEW had chosen to comment only on the conduct of the election but had not released its data on the outcome. NEW's SMS rapid-reporting system enabled it to make timely and detailed reports that helped to instill confidence in the process and contributed to the peaceful transition to a new administration.

While NEW's use of text messaging was historic, it was not the first time that text messaging had been used in this way. A growing number of election-monitoring organizations around the world employ SMS technology to improve the effectiveness of their monitoring efforts. For two decades, the National Democratic Institute (NDI), a nonprofit organization that works around the world to support democratic development, has provided technical support to nonpartisan domestic election monitors in over 70 countries. In recent years, this assistance has increasingly included helping nonpartisan domestic monitoring organizations use technology such as text messaging to enhance their effectiveness. SMS messaging tools represent one promising area where new techniques are making a significant contribution to election observation. This article explores the evolution of these techniques and their impact on the field of election monitoring.

ELECTIONS AND RIGHTS

The right to vote is enshrined in Chapter 21 of the Universal Declaration on Human Rights⁴ and is widely accepted as a fundamental political right. But the right to vote is not enough. For the right to vote to be meaningful, elections must be credible—they must be free and fair and their outcomes must reflect the will of voters. Citizens must be permitted to seek, receive, and impart information on the election process in order to establish the credibility of elections, which requires that election processes be transparent and accessible to observers.⁵ Thus, it is only when the electoral process is transparent and when citizens have information about the conduct of the election that citizens fully exercise their right to vote.

Election-monitoring organizations attempt to defend citizens' right to vote, as well as their right to information about the electoral process. Furthermore, the existence of these organizations increases transparency in the electoral process. Election observation not only exposes problematic elections, but also builds public confidence in the ability to hold credible elections, thus establishing the legitimacy of the governments that the elections produce. Confidence in the election process encourages voter participation and increases the likelihood that all parties will accept the results. Recent events in Kenya and Zimbabwe demonstrate how a lack of transparency and confidence in key aspects of an election can have disastrous consequences, including widespread conflict, and severely impair newly elected leaders' ability to govern effectively.

Election monitoring can also have a larger purpose. It can have a long-term impact by engaging the citizenry in their country's political process between elections so that links can be built between civil society and elected leaders. The organizational skills of civic groups often are developed through election-monitoring initiatives.

MONITORING ELECTIONS

Nonpartisan election monitoring typically has two goals. The first is to defend citizens' right to vote. To this end, nonpartisan domestic election-monitoring organizations place trained, accredited observers in polling stations. Their presence and vigilance are intended to discourage disenfranchisement and election mismanagement due to malicious or careless acts.

The second goal is to ensure that citizens realize their right to information about the electoral process. To achieve this goal, nonpartisan domestic election-monitoring organizations provide citizens with a comprehensive and credible assessment of the election. This assessment is most useful in the period immediately after an election, ideally before official results have been announced.⁶ The assessment ideally should present a complete picture of voting from around the country, which requires gathering information from a representative set of polling stations, including those in rural and remote locations.⁷ This removes socio-geographic bias from the overall assessment and can help election-monitoring organ-

izations identify election-day trends more accurately, rather than focusing on reports from large population centers.

However, a random sample of polling stations would likely include those in some of the most isolated and inaccessible locations. Providing a complete and comprehensive assessment therefore requires the organization to develop a rapid-reporting system that can move a large volume of information quickly and reliably from around the country, including from the least accessible places.

An election observation designed around representative deployment and rapid response requires tremendous effort in terms of logistics, communications, and information and volunteer management. To provide a credible and comprehensive assessment of the election, an organization must often recruit, train, and deploy thousands or tens of thousands of observers. The organization must collect meaningful information from these observers, then process and combine this information in a manner that lends itself to analysis and interpretation—all within the short time frame during which the election process is under intense scrutiny.⁸

Election-monitoring organizations face significant challenges to their efforts. Countries where the need for election monitoring is most acute often have significantly limited infrastructure and communications systems, and the volunteers upon whom the monitoring organizations rely may have limited time and resources. Moreover, the actors in an election who have the most incentive to manipulate the outcome often have substantially greater resources at their disposal than do monitoring organizations and others interested in preventing such manipulation. Overcoming these challenges to guarantee effective citizen oversight of elections is at the heart of SMS reporting by mobile phone.

GENERATION TEXT: INDONESIAN AND PALESTINIAN ELECTIONS

Using SMS as a tool for reporting election information was born out of two independent exercises. In Indonesia in 2005, domestic election observers first used SMS messages to manage the high volume of calls from as many as 750 observers in four rounds of local elections. Then, in January 2006, the National Democratic Institute initiated a small pilot project to test the usefulness of SMS in tracking the location of roving teams of international observers to the Palestinian Legislative Council elections.

As Indonesia's 2005 local election approached, the monitoring partners working with NDI—LP3ES, Yappika, and JAMPPI—reviewed lessons from the previous year's presidential and parliamentary elections. One area of agreement was that the national call center needed to be revised to rely more on cell phones than on land lines. In Indonesia, as in many countries, land lines are difficult to locate outside of urban areas.⁹ There was limited connectivity between the land lines in the call center and the cell phones used by observers and coordinators, who complained of long delays in getting through to the call center. Observers also expected to be reimbursed for calls, but they had difficulty providing valid receipts.

While providing more flexibility, using cell phones to replace land lines in a

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traditional call center creates other problems. For example, having a cell phone-based call center eliminates the opportunity to create a hotline that rolls to the next available phone line, as is possible with land lines. This can lead to a situation where observers have difficulty finding an open line, while other phones sit idle. To maximize limited reporting resources, monitoring organizations that find themselves in this situation may assign particular reporting lines or reporting times to small groups of observers.

In Indonesia, organizers arrived at a better solution—using SMS text messages. Rather than have observers try to call the center repeatedly until they found an empty line, observers simply sent a text message with their observer ID to indicate that they were ready to report. An SMS server put the observer into the call queue and sent an automatic response with the expected call time. The data-entry operator would call the observer and remove him or her from the queue, thus maximizing use of phone lines by ensuring that none were sitting idle. Data-entry operators (and their phones) could be added or retired according to demand. Observers whose phone number wasn't recognized or who provided an incorrect observer ID were directed to contact the volunteer coordinator. This system had the added benefit of moving the burden of cost from the volunteer observer to the organization. In Indonesia, as in most countries, the recipient doesn't pay for incoming calls, and text messages are significantly cheaper than air time for phone calls.

While the use of SMS in Indonesia developed from a problem looking for a solution, in the Palestinian elections, SMS was a solution looking for a problem. SMS was a technology technical experts at NDI had been looking to pilot for some time. NDI had been recently encouraged to apply SMS at the 2005 inaugural meeting of MobileActive, a network of activists using mobile technology for social change.

NDI had developed a digital map of polling stations for a project that began during Palestinian presidential elections a year earlier, which it had been using to analyze and present information on the elections. The security situation in the Palestinian territories required that international observer teams report their location throughout election day. A few days before the election, the idea emerged to combine text messaging and digital mapping to automate the process of tracking observer teams.

Two observer teams were selected for a pilot project. Upon arriving at their designated polling stations, each team text-messaged their station's four-digit code to a cell phone connected to a laptop in Jerusalem. Software on the laptop downloaded and processed the message, and then stored the polling station code and sender in a database. Geographic Information System (GIS) mapping software was connected to the same database, and it was possible to see the last reported location of the two observer teams at any time.

The Indonesian and Palestinian elections both provided environments ripe for innovation. Both saw multiple rounds of elections within about a year, which provided opportunities to learn and adapt. Both presented challenging logistical envi-

ronments that encouraged problem-solving. For different reasons, the two separate monitoring efforts on opposite sides of the globe had both independently identified and used text messaging to improve election monitoring.

By using phones connected to computers, both international and domestic observer groups were able to use SMS technology to instantly move information from a text message directly into a database, without human intervention and at minimal cost. Therein lay a promising solution to the quintessential problem of reporting domestic election monitoring: how to rapidly move information from legions of observers into the headquarters of an underresourced organization, working in an environment with poor infrastructure.

ONE GIANT LEAP: THE MONTENEGRIN REFERENDUM

The 2006 Montenegrin referendum on independence provided the first opportunity to test the ability of SMS to deliver on this promise. In this referendum to decide the status of Montenegro, citizens were naturally anxious to learn the results as quickly as possible. Furthermore, the political environment was extremely charged over widespread uncertainty as to whether the “yes” vote would reach the 55 percent majority needed to declare independence. An active Serbian minority at one point considered boycotting the vote in hopes of preventing the 50 percent turnout necessary for the results to be considered valid.

The Center for Democratic Transition (CDT), a seasoned election-monitoring organization and NDI partner, was interested in collecting the official results and voter turnout data from a random sample of polling stations in order to project the national results and turnout figures for the referendum. In Montenegro, as in many countries, votes are counted at the polling station in the presence of observers and agents of the political parties. Using the actual results from a random sample of polling stations, CDT would be in a position to project the national results within a reasonable margin of error.¹⁰ In doing so, CDT hoped to reassure citizens of the validity of the exercise and reduce tensions over the uncertainty of the outcome. CDT had extensive experience with this type of parallel projection, but in this case it was particularly important that the results be received and processed as quickly as possible. This presented CDT with an opportunity to build on the experiences of using SMS in Indonesia and Palestine.

A reporting system was developed that would allow CDT observers to text cumulative turnout figures and poll results using a simple set of codes. The letter *d*, followed by a number, indicated the number of yes (*da*) votes. The letter *n* indicated no (*ne*) votes, *i* indicated invalid votes, and so on. These codes were processed with a piece of software called SMS Reception Center (SMSrc). SMSrc was flexible enough so that observers could use either capital or lower-case letters, send numbers in one message or multiple text messages, and include punctuation and extra spaces. The system knew which polling station observers reported by their phone number, which was preassigned in the database. Upon reporting, observers would get a text message confirming their submission, along with instructions on what to

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do if he or she notices an error in the submission. SMS reporting also allowed observers to report without taking them away from observation duties to make a phone call or locate a supervisor. CDT observers used this system to report updated turnout figures every two hours.

Montenegro provided an excellent environment for a first test of SMS messaging. CDT had extensive experience in election observation, mobile coverage there is good, and text messaging is common in Montenegrin culture. In addition, because this was a referendum with only two possible outcomes, the information to be transmitted was relatively simple. That said, transmitting results and turnout in this way was an entirely new endeavor. NDI approached this as a pilot project in order to manage expectations. However, the reality was that CDT was excited about this new rapid-reporting system and had informed the press that it would be in a position to make a statement within an hour after the close of the polls. The system *had* to work.

FALTERING AND FLYING

The first full test of the system came two days before the election. At noon, all observers sent a test message to verify that they were able to use the system and, more importantly, to see if the system could handle 200 simultaneous messages. It could not. The phone could not process the messages quickly enough and they would get stuck in a queue on the mobile providers' side. Just two days before the election, it appeared that there was no reporting system at all.

That night, CDT worked frantically with Montenegro's two mobile providers, Monet and Promonte, to arrive at an inelegant but workable solution that would clear blockages in the system and allow messages to go through. To rely on this solution, CDT needed a successful test before election day. But how could CDT schedule another test and also stop the flood of contentious observers calling to report that they hadn't received the expected confirmation message?

With a little adjustment, CDT was able to use the system to "blast" all of its observers with a message asking them to repeat the exercise the next day. The second test was a success, and CDT went into the election with more confidence. CDT used the capability to blast messages to observers several times over the course of the referendum. While originally not part of the system design, the ability to communicate instantly and directly with observers greatly aided in the organization and management of the observation. This was an important lesson learned from the exercise. In future elections, other election-monitoring organizations would introduce more sophisticated ways of sending bulk messages to observers, allowing the leaders to send messages automatically only to a targeted group, such as coordinators or observers from certain parts of the country or observers who had not yet submitted an SMS report.

The reporting database had tools for instantaneous calculations and analyses of all polling-station results that had been received up to the moment. The speed of text-message reporting without the delays previously associated with data entry

and the powerful tools for querying the live data gave CDT unprecedented ability to manage observers and to track trends in the information as it was received.¹¹

Using this rapid-reporting system, CDT reported at a 2 p.m. press conference that the 50 percent turnout requirement had been met by mid-day.¹² The system also allowed CDT to quickly determine that the referendum outcome would be extremely close. In fact, CDT's projected results showed the margin of victory to be within the statistical margin of error, making the result "too close to call." Based on the numeric analysis provided by the system and qualitative reports taken by phone, CDT informed the public that it would have to await the official results of a complete count, in which they should have confidence. CDT, with the aid of SMS technology, helped stabilize a tense political environment and helped the public accept the final result that the referendum had passed by a mere 2,046 votes.

LESSONS LEARNED: GENERAL ELECTIONS IN MONTENEGRO

Five months later, for the general elections, CDT decided to observe and project the presidential vote counts, the parliamentary mandates, and the results of mayoral and local council races in five municipalities. The additional complexity and scope made this projection much more difficult than the one for the referendum. CDT determined that it would need to increase its number of observers by nearly 75 percent over the previous election.

The referendum experience had shown that a couple of cell phones attached to a laptop did not provide a sufficiently robust way to manage the volume of messages generated by hundreds of observers. To prepare for Montenegro's general election, the NDI team explored more professional solutions for sending and receiving text messages in bulk. Bulk messaging through an international SMS gateway¹³ provided the ability to send messages out to observers easily, but to receive messages using an SMS gateway would have required observers to send messages to an expensive international number.

To provide an alternative, CDT worked with each cell phone provider to establish a hotline for SMS reporting. CDT observers could send their reports to the hotline associated with their provider and, upon receiving each message, the provider would convert it into an email that included the sender's number and a time stamp. That email was then sent to an account provided by CDT. The SMS software, SMSrc, was configured to read and process messages from the email account rather than from an attached phone.¹⁴

This configuration eliminated the need in CDT headquarters for phones to receive messages, but it did require a stable Internet connection both to receive messages via email and to send messages through the international SMS gateway. Capacity to receive messages multiplied significantly as a result. On election day, this system was able to receive and send hundreds of messages easily within a few minutes. As before, these messages were instantly included in CDT's election database.

With this system, CDT accurately projected each party's parliamentary man-

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dates in a very tight and contentious race and projected the vote percentages for the presidential and local elections to within a fraction of a percentage point.

PROLIFERATION AND INNOVATION

Subsequent elections pushed the limits of using SMS technology in election monitoring. The Bahrain Transparency Society's (BTS) observation of Bahrain's 2006 general elections was the first comprehensive election observation in the country's history. The small size of the island nation allowed BTS to deploy observers to all polling stations. BTS used SMS to track turnout and results in all 11 parliamentary and 16 municipal races.

The observation of Albania's 2007 general elections remains one of the largest observation efforts involving SMS messaging. Under the banner Coalition of Domestic Observers, eight organizations came together to oversee 1,200 observers across the country. These observers used SMS to report turnout, critical incidents, and key process information received via more than 41,000 text messages sent on election day. Albania also pioneered the use of true two-way SMS through an international SMS gateway service provider, which freed NDI from having to rely on local providers and provided unlimited capacity.

In the tense and competitive atmosphere of Sierra Leone's 2007 general election, the local observer group, National Election Watch, used SMS to collect immediate reports on the quality of the elections from a random sample of 10 percent of polling stations, and within 24 hours of the close of the polls, NEW had made a statement that had a constructive and calming influence on the electorate.

Each of these exercises provided opportunities to challenge the limits of SMS messaging and to observe the impact these tools can have on election monitoring and election-monitoring organizations.

BETTER LIVING THROUGH TEXT

Many were initially skeptical about how useful SMS could be in election reporting. Some felt that SMS was not suited for transmitting results on multiple candidates because the increased complexity could lead to errors. Other did not believe that SMS was an appropriate tool for capturing and transmitting information on the quality of elections, particularly information on critical incidents such as ballot-box stuffing, violence, voter intimidation, and other events that would raise questions about whether the results reflected the will of the people. Subsequent elections provided opportunities to test these limitations.

In Bahrain, observers used codes corresponding to each of 54 candidates to report the results and turnout of 11 legislative council and 16 municipal council elections. Each observer sent the vote count using codes specific to each candidate. Ten "general" polling stations were provided around the country where any voter could vote on the ballot for his or her constituency. Observers at these polling stations successfully reported results for up to 54 different candidates. With these

reports, the Bahrain Transparency Society provided updated turnout figures throughout the day.¹⁵ Within six hours of the close of polls, BTS had results from 75 percent of the country's polling stations.

In Sierra Leone, NEW made the most extensive use of SMS messaging by any group to date to collect information on the conduct of elections. NEW focused its efforts on collecting information on the electoral process rather than just on the results. Ten of the most critical issues about the voting and counting processes were designated as SMS questions. This included how polling officials would respond to voters who had lost their voting cards¹⁶ and whether polling stations had adequate campaign materials.¹⁷ At the end of the night, each observer constructed a text message that included the answers to the 10 text questions and the results of the presidential election.

SMS was successfully used to report critical incidents on election day in Albania and Sierra Leone. Observers in both countries were given a set of codes that corresponded to different types critical incidents.¹⁸ To report an incident, the observer would send the polling-station number along with the appropriate incident code(s). The organization's call center would then triage incident reports and call the observer for more information about the most egregious incidents.

In this way, observers in Albania reported 168 critical incidents by SMS. The Coalition of Democratic Observer's call center was busy all day following up on these text reports. This was a dramatic improvement over the 2005 elections, when few incidents were reported on election day. In Sierra Leone, text reports were frequently used to alert the National Election Commission or the police to election problems in time for them to be remedied.

Incident reporting was greatly enhanced by a development that allowed observers to append additional notes to incident reports. The system was designed so that the observer could add notes by entering a star (*) in a text message.¹⁹ Anything after the star would be interpreted as free text rather than predetermined codes. These notes provided valuable contextual information and were used by organizers to triage incident reports.

CAN YOU HEAR ME NOW?

SMS IMPLICATIONS FOR COMMUNICATION AND ORGANIZING

Any reporting system, whether or not it involves SMS, must be designed around the information to be reported, and the reporting requirement. It must also consider things such as the capacity and training of observers, and any concern that the reporting system may be compromised. Organizational dynamics also have a large effect on the design, and the reverse is true as well. The ability of SMS to enable frequent direct communication between observers and leadership affects the organizational dynamics of these groups. As described above, it allows them greater flexibility on election day and, by updating and thanking members, probably contributes to a greater sense of belonging among volunteers, who are typically not always active in these organizations and may have been recruited specif-

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ically for the elections. This two-way communication can also create better accountability and oversight within the organization.

Albania's local elections in February 2007 were observed by a network of eight NGOs that united for this purpose, as is the case in many election observation efforts. In Albania, the Coalition of Domestic Observers planned to observe voting and counting at 2,500 to 3,000 of the nearly 5,000 polling centers. Observers were expected to report throughout the day, beginning with their arrival at the polling station. These messages provided network leaders with valuable information on the conduct of the elections, and this information allowed the coalition to provide a detailed account of irregularities in its preliminary report while concluding that the irregularities were not sufficient to seriously compromise the election's "order, calmness and integrity."²⁰

The SMS reports were also useful in evaluating the quality and effectiveness of member organizations' recruitment, deployment, and training. While the network did not reach its ambitious goal of monitoring 2,500 polling stations, it did eventually receive information from 1,266 stations. However, member groups varied widely in their participation and success rates. Communication tools and analysis of observer's messages allowed the coalition to track how many observers reported, whether they went to the location they were assigned to, and how well they understood how to use the text-reporting system.

CHALLENGING ASSUMPTIONS AND CHALLENGING ENVIRONMENTS: SIERRA LEONE

During initial planning for NEW's observation of the elections in Sierra Leone, the prevailing opinion was that there wasn't enough cell phone penetration or technical capacity in this postconflict country to consider using SMS. The civil war that devastated Sierra Leone had ended more than five years earlier, but the infrastructure in many parts of the country remained poor. Dirt roads washed out during the rainy season and cellular phone networks suffered from large gaps in rural areas. Despite these challenges, NEW's mission to provide a rapid yet comprehensive analysis of the election demanded that they gather information from even the farthest corners of the country within 24 hours after the polls closed.

Focusing on these challenges misidentified the problem: SMS was not the ideal solution for moving information in Sierra Leone, but there *was* no ideal solution. When asked about the fastest, most reliable way to move information, NEW leaders and organizers always included text messaging as part of the solution. In Sierra Leone, as in many environments with poor infrastructure, the use of cell phones, particularly text messaging, is the primary means of long-distance communication. SMS allowed NEW to receive reports from 93 percent of rapid-reporting polling stations within a few hours after the election.

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SMS SECURITY

The same factors that make SMS reporting systems inexpensive, accessible, and easy to use also make them vulnerable to abuse and outages. SMS reporting systems rely on local mobile phone infrastructure and are susceptible to outages and suspension by the cell networks. Moreover, malicious individuals can try to compromise the system or introduce faulty data. Safeguards are put in place to prevent such manipulation, but none are foolproof. Unrecognized phone numbers are frequently treated differently from known numbers, sometimes requiring the intervention of an administrator. “Security through obscurity”—using secrecy about a system to reduce the likelihood of an attack—is compromised by the need to disseminate information to observers about the system and how to use it.

Observation in both Albania and Sierra Leone was threatened by blockages and outages. In Albania, one of the mobile phone providers blocked traffic to and from the text hotline during testing. The observer group then negotiated with the provider to restore service before election day. In Sierra Leone, a major mobile phone provider experienced outages for several hours on the afternoon of election day. Fortunately, many observers had a backup phone on an alternative network. Service was restored before the polls closed.

By the time of Jordan’s general elections in November 2007, SMS was gaining currency as part of the “tool kit” of methodologies available for domestic election monitoring. Given Jordan’s high level of mobile phone infrastructure and good technical capacity, the local election-monitoring group, the National Center for Human Rights (NCHR), immediately recognized the potential for SMS. However, the ministry of information would only approve the NCHR project if it agreed to use the national phone provider rather than an international gateway, and to store the data on a server located within the phone provider’s system. NCHR was concerned that storing data in a location outside of their control compromised their ability to guarantee the integrity of the data. They declined the proposed arrangement for SMS reporting and collected information through other means.

CONCLUSION

In a short time, SMS messaging has demonstrated an impressive ability to help election-monitoring organizations overcome many logistical challenges to effective election oversight and protection of citizens’ rights. The speed of communication and processing, the flexibility, and the coverage SMS can provide gives monitoring organizations a powerful tool for organizing volunteers and responding instantly to an evolving election environment. These tools allow groups to quickly collect a rich dataset of election information. When combined with a reporting methodology that utilizes a representative sample of polling stations, SMS reporting contributes to a deep understanding of how elections are conducted across a country and whether the results reflect the will of the people.

When shared with the public, these insights help citizens recognize their right

to information about the electoral process. When citizens have more information about the electoral process and understand the degree to which elections represent their will, they are more likely to participate in the process and are better able to demand elections in which they can have confidence. In contentious and politically tense situations, the ability to comment immediately on the conduct of the election can help to stabilize a potentially volatile postelection environment. Election-monitoring groups using SMS can quickly identify violations of citizens' rights and alert authorities in time to have problems remedied on election day.

In addition to election observation, SMS has been used in other ways to protect the right to vote, such as voter education and voter registration.²¹ SMS text messages have provided a way for citizens to lodge official complaints²² and informal opinions on an election.²³ However, citizens' rights to transparency and accountability do not end with elections. It is easy to imagine how SMS could be used between elections to engage citizens and to protect civil rights. Citizen groups with experience collecting and providing information on elections might use similar methods to advocate for citizen interests in other areas. These tools could be used to monitor government service delivery and identify corruption. By systematically deploying to schools and clinics and reporting on resources available, groups would be able to determine whether their government is living up to its promises and identify areas where government managers are diverting resources. SMS also could be used to report unfair and exploitive practices by police and government officials between elections. These exercises would experience different logistical challenges than election observation. Nonetheless, a cheap, easy, and ubiquitous tool like SMS could play an important role in making governments accountable to their citizens every day.

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NDI is grateful to its courageous, visionary, and professional election-monitoring partners in Indonesia, Montenegro, Bahrain, Albania, Sierra Leone, and around the world for trusting vital communications to untested tools and for their daily efforts to advance and protect the rights of citizens.

Endnotes

1. Many actors observe elections. In addition to local nonpartisan organizations like NEW, political parties, international NGOs, intergovernmental organizations, and media organizations may engage in some form of election monitoring. For the purposes of this article, "monitoring organization" refers to a nonpartisan domestic civic organization that has organized to observe an election.
2. For instance, a text message of "PC01506 ST1 B4 C23 D2 E24 F1 G2 J1 R12 S3 T1 T100 U100" would have indicated the following about fictitious polling center 01506: "The polling station

opened on time. There was not sufficient indelible ink for marking voters. Voters not appearing on the voter list were permitted to vote. Voters with no ID card and no additional information were permitted to vote. Voters fingers were not properly marked with indelible ink to deter double voting. Officials did not provide for secrecy of the ballot. Officials appeared to be biased. There were no campaign materials in the polling station or within 400 yards of the polling station, as required. The polling station was somewhat overcrowded but officials maintained order. There was sufficient security presence at the polling station. Both the APC and SLPP party agents refused to sign the protocol, suggesting that neither agreed with the count. Ballots were counted in an orderly manner but officials improperly rejected votes that should have been counted. APC candidate Ernest Koroma and SLPP candidate Solomon Berewa each received 100 votes.” Polling center 01506 was not a real polling station, and few of the polling centers visited by NEW had this many problems. This hypothetical is meant to show the range of information that can be captured in a single message.

3. National Election Watch (2007).
4. Chapter 21 of the Universal Declaration of Human Rights states: “The will of the people shall be the basis of the authority of government; this will shall be expressed in periodic and genuine elections which shall be by universal and equal suffrage and shall be held by secret vote or by equivalent free voting procedures” (United Nations, 1948).
5. Merloe.
6. This is the period in which there is the most domestic and international interest in the election and the greatest opportunity to redress serious problems. Making a statement after the results are announced opens the group to criticism that its statement is politically motivated and may make it politically difficult for the “victor” to accept an assessment that the elections are problematic.
7. If the monitoring group deploys observers conveniently, it is likely to get information in a higher proportion from urban areas. This results in a highly skewed assessment, since urban areas often exhibit different voting patterns and voting experiences from rural areas.
8. In fact the group must do quite a bit more. This only describes the observation of the election day process. To truly give an assessment about the credibility of an election, the group must examine many other aspects of the election, beginning with the legal framework, the voter registration process, registration of parties and candidates, the campaign period through the election day exercise, tabulation of results, and the process of handling challenges to the election. This is increasingly important, as those interested in manipulating the outcome of elections may find much less domestic and international resistance to manipulation in these other phases. Most election-monitoring efforts employing SMS have been largely directed at election day observation, as the number of observer agents, the amount of information, and the time requirements are significantly greater than for an observation of other phases of the process.
9. In some countries, land lines are difficult to come by even in the capital, and getting sufficient lines for the national call center may involve significant bureaucratic delays.
10. This methodology, known as Parallel Vote Tabulation or Quick Count, is described in detail in Estok, Nevitte, and Cowan (2002).
11. These tools were improved in subsequent elections to include detailed live maps, charts, and reports.
12. “As of 1 p.m. our observers calculate that 51.8 percent of voters have exercised their right to cast a vote,” said an official of the Center for Democratic Transition. For more information, go to http://www.dose.ca/toronto/news/story.html?s_id=ILaFEpszaphQmp%2BQ4hXxeYftJgYm%2FiQrh%2Faw6avCnw9wGhT93jNI%2Fg%3D%3D.
13. An SMS gateway is a company that has relationships with multiple mobile phone providers and offers special tools and bulk rates for sending and receiving text messages. Clickatell SMS gateway was selected for of its extensive international coverage and its integration with SMSrc.
14. This functionality was not originally part of SMSrc. By this time, NDI has established a relationship with Anton Kovalenko, the developer of SMSrc. NDI contracted Kovalenko to add this functionality, which is now a core feature of SMSrc and available for other groups that use this software.

SMS As a Tool in Election Observation

15. Joint Committee for Monitoring 2006 Elections (2006).
16. This became a concern when a number of villages were raided and houses burned, allegedly to destroy voter cards and disenfranchise those voters. The NEC recognized the need to provide victims of these acts the right to vote, in part to discourage further such acts. However, the NEC also needed to establish safeguards to allay the parties' concerns that these provisions would be abused.
17. Many were concerned that the rainy season would prevent the NEC from distributing the ballots and equipment needed to run the election in a fair and consistent manner.
18. In Albania, for instance, Code 1 indicated violence, intimidation, or harassment. Code 2 indicated vote buying or bribery, and so on.
19. In later elections the "*" symbol was retired in favor of the "!" because on some phone the "*" is very difficult to insert when composing a text message.
20. Coalition of Domestic Observers (2007).
21. Stein (2006).
22. The South Korean National Election Commission encouraged citizens to text information on election violations during 2004 elections. For a report by Steven Clift, go to <http://www.mail-archive.com/do-wire@lists.umn.edu/msg00173.html>.
23. During Nigeria's 2007 general elections, the Network of Mobile Election Monitors (NMEM) provided a text line for voters to submit their impressions on the election and later published a selection of messages. While perhaps a valuable way to engage citizens, it is important to distinguish this from election observation methodologies that involve accredited, trained observers who are deployed in a manner that permits a complete and credible assessment of the election.

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